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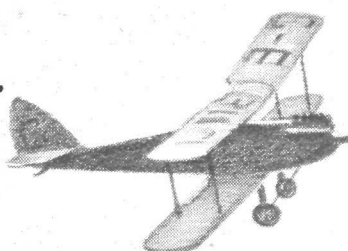
OFFICIAL ORGAN OF THE ROYAL AERO CLUB

No. 1280
Vol. XXV
No. 27

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EVERY THURSDAY

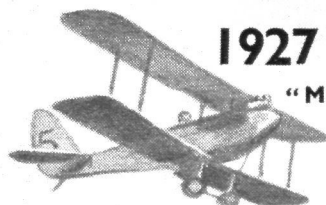
1926

"MOTH"



1927

"MOTH"



1925

"SISKIN" V



1928

"GIPSY MOTH"



THE KING'S CUP

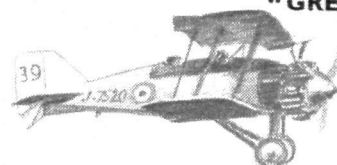
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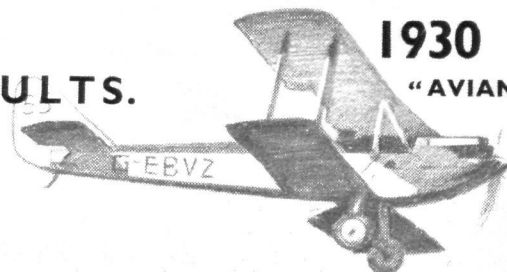
1924

D.H. 50



1930

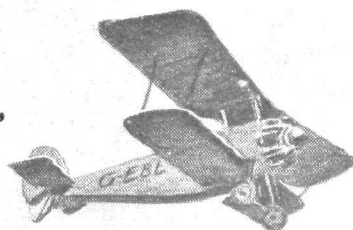
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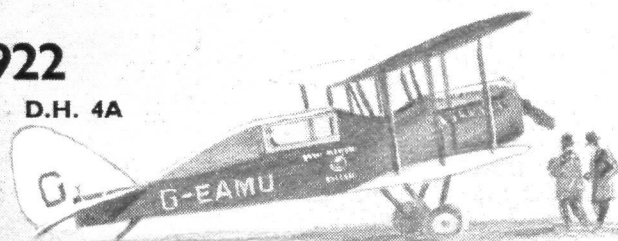
1923

"SISKIN"



1922

D.H. 4A



1932

"FOX MOTH"

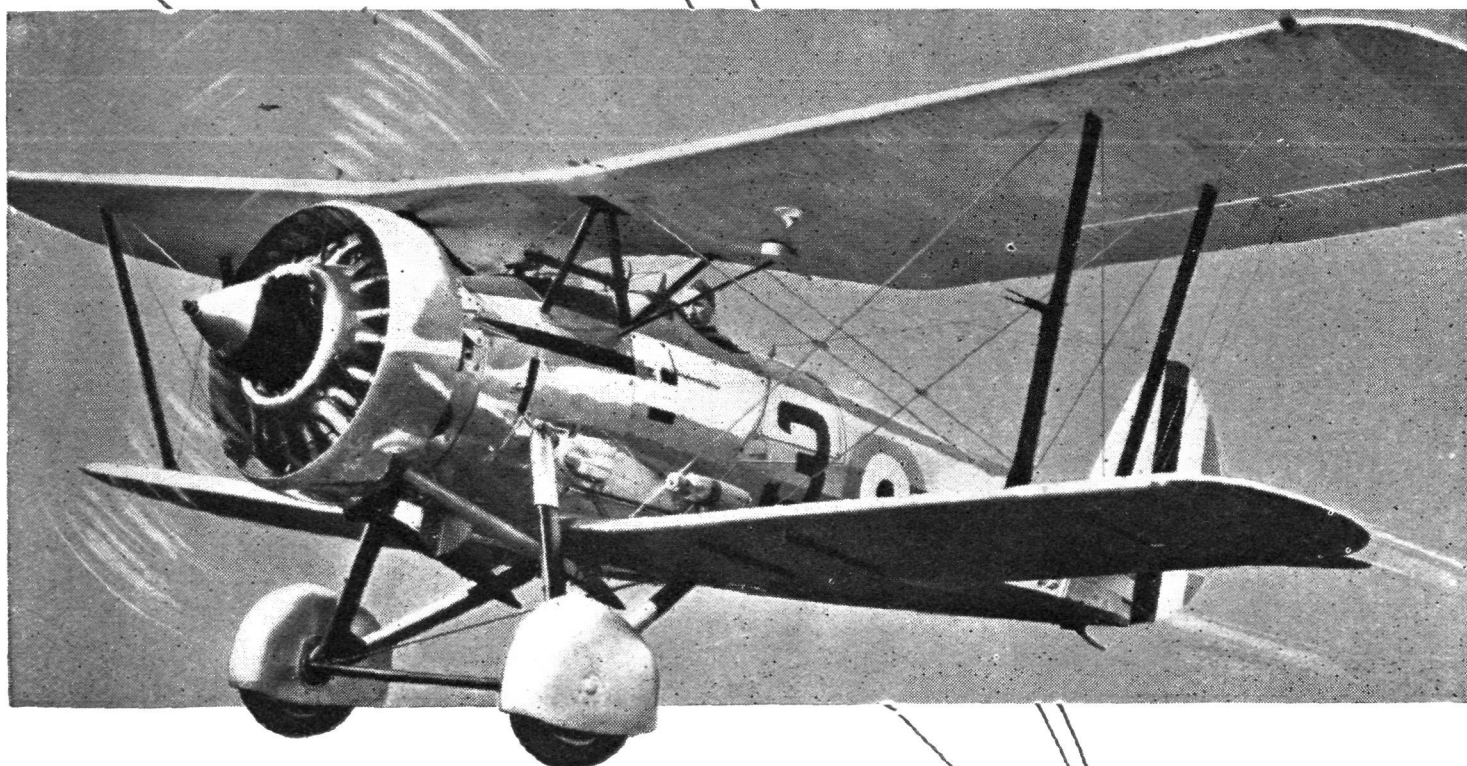


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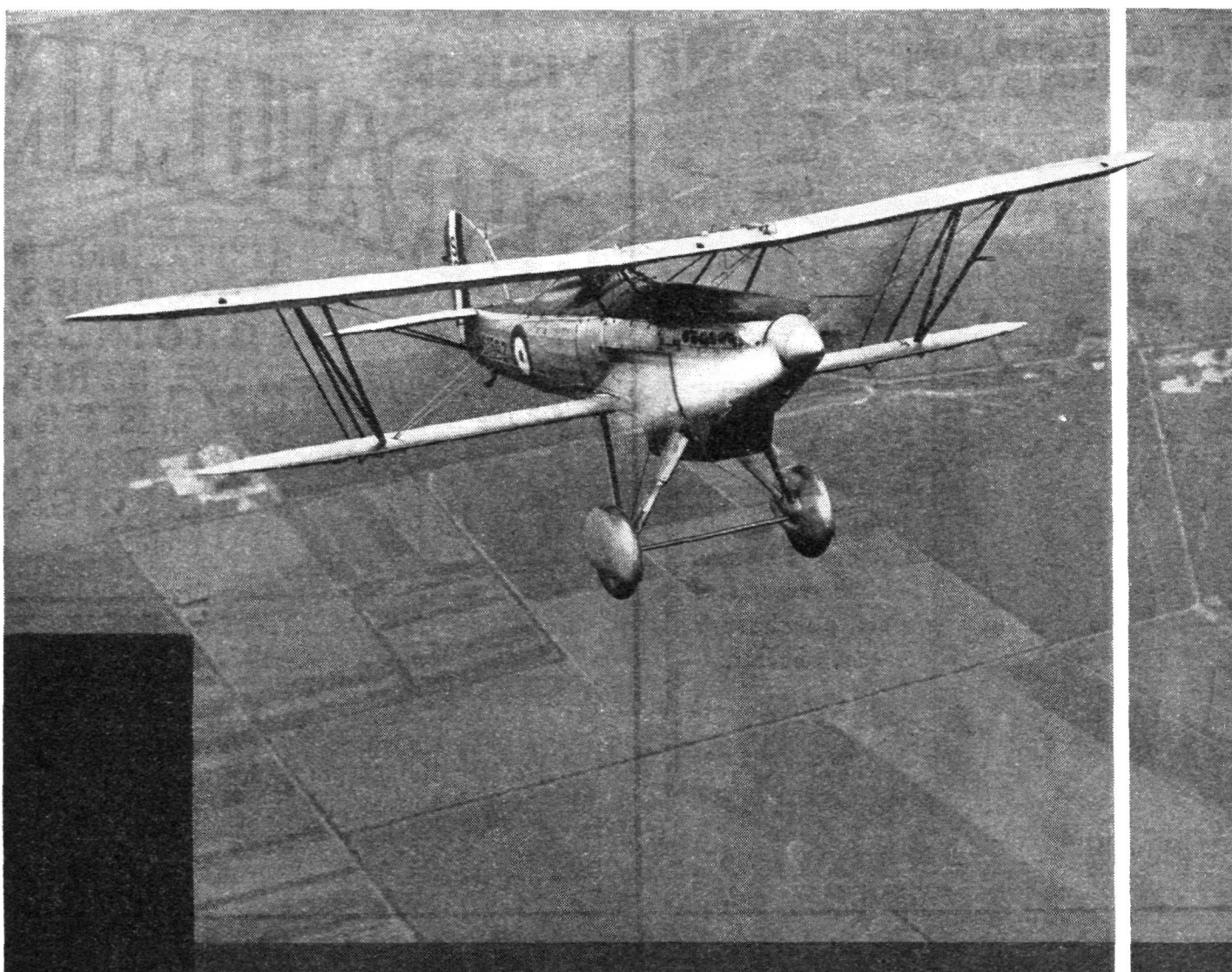
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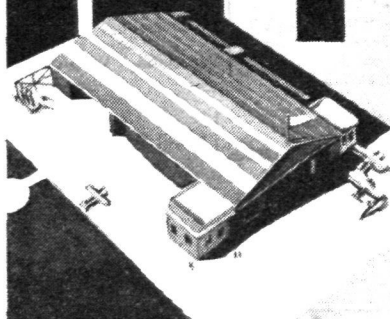
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The
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First Aeronautical Weekly in the World. Founded January, 1909

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice and Progress of Aerial Locomotion and Transport
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CONTENTS

| | PAGE |
|--|------|
| Editorial Comment: | |
| The King's Cup Race .. | 655 |
| The Great Italian Flight .. | 656 |
| Only a "Spartan" would attack the "Heyford" .. | 657 |
| The King's Cup Air Race .. | 658 |
| Italian Formation Flight .. | 663 |
| Airisms from the Four Winds .. | 665 |
| Handley Page "Heyford" .. | 666 |
| Air Transport .. | 671 |
| Airport News .. | 673 |
| Liverpool's New Airport .. | 674 |
| Air-minded Ulster .. | 677 |
| From the Clubs .. | 678 |
| Two Japanese Military Machines .. | 679 |
| Book Reviews .. | 680 |
| Royal Air Force .. | 681 |
| Air Post Stamps .. | 682 |

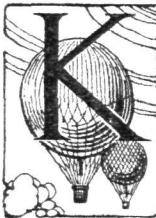
DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1933.

- July 8. King's Cup Air Race, Hatfield.
- July 8. Maidstone Ae.C. Air Display.
- July 8. Sir Philip Sassoon "At Home," for Delegates of the World Economic Conference, at Trent, New Barnet.
- July 11-15. R.A.F. Athletic Championships, Uxbridge.
- July 14. R.N. Flying Club Annual General Meeting, at R.U.S.I., Whitehall, 6 p.m.
- July 15. Herts and Essex Ae.C. Meeting at Broxbourne.
- July 16. Yorkshire Trophy Race, Sherburn-in-Elmet.
- July 17. International Rally, Dieppe.
- July 22. Official Opening of Maidstone Airport and Ae.C.
- July 22-23. Cinque Ports Club Flying Meeting.
- July 22. Cardiff Ae.C. Annual Air Pageant, Splott Aerodrome.
- July 22-24. International Rally on the Belgian Coast.
- Aug. 5. Maidstone Ae.C. All-Women's Air Rally.
- Aug. 7. Scarborough Ae.C. Flying Meeting.
- Aug. 12. London-Newcastle Race.
- Aug. 13-20. International Gliding Competition, Wasserkuppe, Germany.
- Sept. 1-4. International Air Races and Gordon Bennett Balloon Race, Chicago.
- Sept. 9. Kent Air Pageant, Maidstone Airport.
- Sept. 9. Essex Aviation Display, Maylands Aerodrome, Romford.
- Sept. 16. Bristol and Wessex Ae.C. Garden Party.

EDITORIAL COMMENT



ING GEORGE gave a badly-needed fillip to popular interest in flying when in 1922 he first presented a cup for an air race. It was given at a moment when things aeronautical were at a low ebb and interest in them was even lower. But when it was known that there was to be an air race round

Great Britain for a cup presented by the King, tremendous popular interest was at once aroused, and in every city on the route, except London, huge crowds assembled to watch the aeroplanes arrive and depart. What an extraordinary field turned out to compete! "Kangaroos," Avro "Babies," a "Gnu," a "Vulcan," a Martinsyde, over half-a-dozen De Havillands of various categories, a sky-writing S.E. 5.A, and an early type "Siskin" as scratch—then the very latest word in air speed. There were twenty-two machines in all, of which just eleven got back home to Croydon. The race was won by F. L. Barnard in a venerable D.H.4.A with "Eagle" engine, which had been bought by the Instone firm before they began to take an active interest in air transport, and had been converted to a cabin fuselage in the Avro sheds at Hamble. That D.H.4 really played no small part in leading up to the formation of Imperial Airways, and it was not unfitting that it should win the first King's Cup. The list of the competing pilots, too, is interesting. Among them were Hinkler, Longton, Spenser Grey, Kenworthy, Cockerell, Haig, Uwins, Raynham, Leslie Hamilton, F. L. Barnard, and Courtney.

The popular interest in the King's Cup each year continued in the Northern and Midland cities for several years. Strangely enough, it was the coming of the "Moth" which, in a way, led to a decline in that popularity. The light aeroplane led many thousands to take a practical interest in flying, but it also led to a swarm of entries for the great handicap race, all more or less indistinguishable to the non-technical public. In the early years there was no very great difficulty in being able to recognise a "Vulcan," an Avro "Baby" or a "Kangaroo," though the man on the aerodrome felt highly pleased

with himself when he had done so. But when it became a matter of swarms and swarms of "Moths," "Avians," "Bluebirds," etc., the said man on the aerodrome, in the words of Lewis Carrol, "fairly lost heart and outgrabe in despair, when the third (score) repetition occurred."

It was all a very natural and a very desirable development, but it inevitably robbed the race of much of its interest. Yet it so happened that the first win by a "Moth" (in 1926) provided the most exciting finish that the King's Cup has ever seen. On the last lap only seconds divided a "Moth," flown by Broad, from a Vickers "Vixen," with Napier "Lion," flown by Scholefield, and when the winning machine first appeared as a speck in the blue, it was not possible for a moment to say whether it was the big one or the little one. Had this finish been at Manchester, there would have been large excited crowds to see it. As it took place at Hendon, only a handful of enthusiasts were present. It was the finest King's Cup Race ever held, but it marked the beginning of the lessened popular interest.

This year a very sensible effort has been made to weed out the "outsiders" in early laps, so that there may be a good chance of a close finish at the end. The proprietors of Hatfield aerodrome, the De Havilland Aircraft Co. Ltd., have made strenuous efforts to attract a crowd to watch the event, and certainly it is a very easy run in a car or an omnibus to Hatfield along the Barnet by-pass road. Probably thousands of cars pass the aerodrome every week-end, and the drivers who have done so in the last couple of months must have noticed the little "Tiger Moth" (of the more ancient vintage) hoisted high above the wall by the aerodrome. Those who go to see the final lap should see good sport, and may see quite an exciting finish. Civil flying has developed as we always hoped that it would. It is no longer a stunt, but an everyday matter. We must rejoice that our hopes have been fulfilled, but when it comes to a modern handicap race, we can hardly help regretting the cheerful old days of the "Gnu" and the "Kangaroo."



Once more it gives us pleasure to welcome to British shores that fine air leader, General Italo Balbo and a body of gallant Italian airmen in seaplanes. It was with a different purpose that he brought an equally gallant band over in 1929 for a Schneider Contest. Then the high courage of the Italian pilots aroused our admiration as much as their poor luck evoked our sympathy. The 24 seaplanes which flew from Italy to Lough Foyle are engaged on an enterprise probably even more hazardous than a Schneider Contest or an attempt on a high-speed record. Already, even before the wing reached the British waters, bad fortune has afflicted them, and we join with them in mourning a fatal accident. We trust that better luck will follow

The
Great Italian
Flight



New Registrations

AMONG the latest aeroplanes to be registered is a "Monospar" (2 Pobjoys) for Mr. J. C. Cantrill. Mr. Cantrill is in charge of the aviation department of the Cellon works, Kingston-on-Thames, so no doubt the new machine will have a "specimen" finish when it first appears in public. A Miles "Hawk" has been registered

them in the more difficult stages of the flight which lie before them.

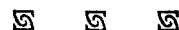
The Italian airmen are well aware of the difficulties which they will have to overcome. We may recall here that an Italian airman, Signor Locatelli, attempted a world flight in 1924 in a Dornier "Wal," and was forced down in the North Atlantic by sheer inability to see where he was going. The flying boat was damaged by the seas, but the crew remained in it for three nights, and then were picked up by one of the U.S.A. cruisers which were assisting the world flight of Lowell Smith and Nelson in Douglas seaplanes. *Absit omen!* General Balbo knows, however, that fogs may be met between Ireland and Labrador, and already bad weather reports have lengthened his stay in Ireland. Caution is to be applauded, for the Atlantic can be merciless, and no unnecessary risks ought to be run. Everyone will be greatly relieved when Gen. Balbo and his men are safely in America.



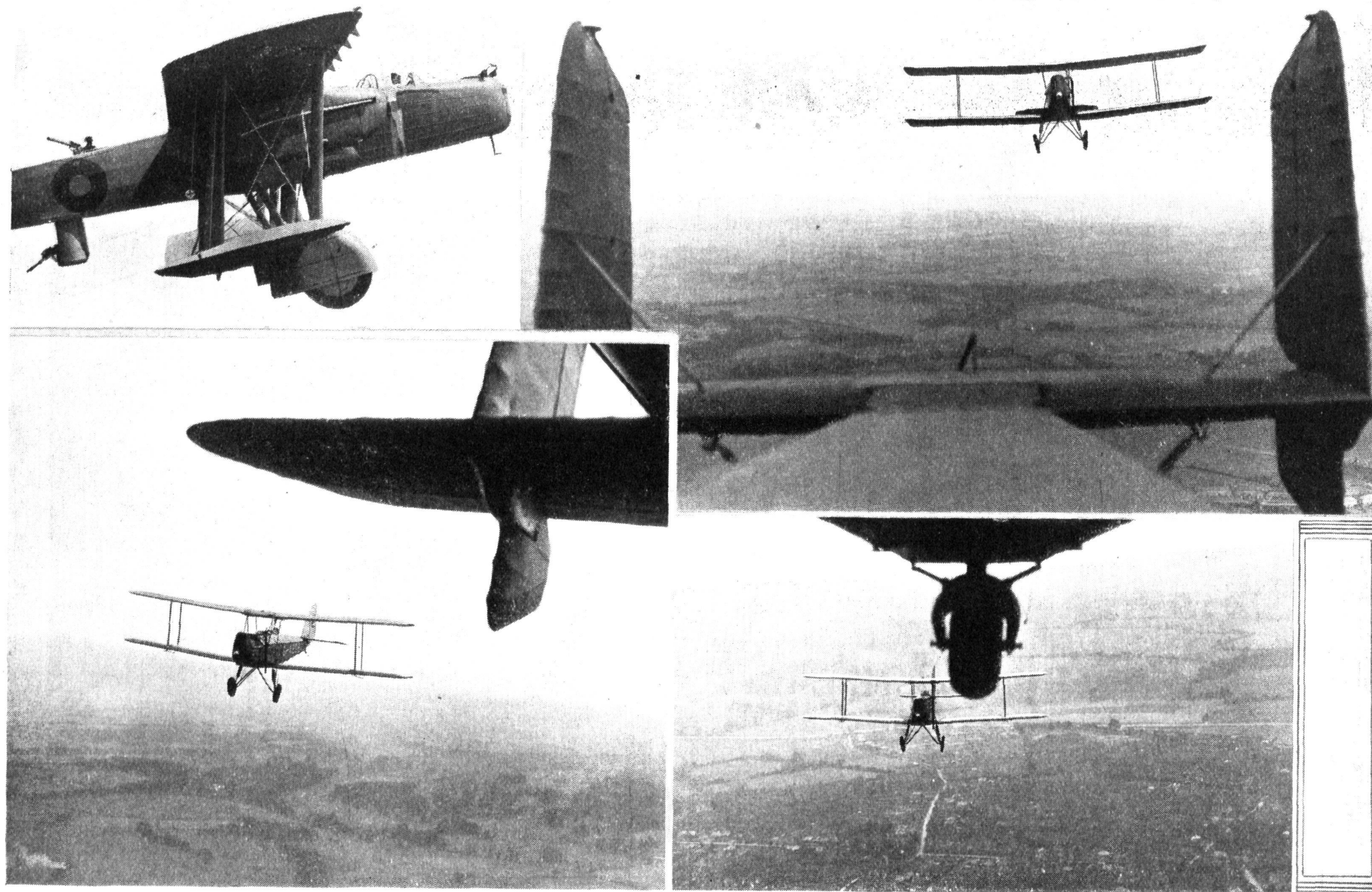
We heartily welcome the action of the Secretary of State for Air in appointing an independent Committee to consider the regulations governing private flying. The official announcement will be found on another page. It is certainly a strong Committee. Lord Gorell is a former Under-Secretary for Air, Capt. Balfour is a very active member of the Parliamentary Air Committee, Mr. Gordon England and Col. Moore-Brabazon have had experience of the early days of flying when there were next to no regulations, Mr. Everard will be an extremely sound representative of private flying of the present day, and the S.B.A.C. will be well represented by the acute mind of Mr. Handley Page.

FLIGHT has often expressed its opinion that there are too many regulations about private flying, which have come to mean restrictions. The certificate of airworthiness is one point on which we feel that reform is necessary. Its cost is too high, and we hold that the certificate in its present form is unnecessary. A discussion of the certificate is specifically mentioned in the Committee's terms of reference. It is significant that a member may be added to the Committee to represent insurance interests, and we have often stated our opinion that the insurance interests are, in the long run, the best guardians of safety in the air. The recent A.N.D. II, which forbade the flying of experimental types without the permission of the Air Ministry, seemed to us the last word in official obstruction. It was certainly time that something was done about it all, for serious dissatisfaction was growing fast.

We are very glad that Lord Londonderry has taken the initiative in arranging for an enquiry into the whole matter, and we hope and believe that the result will be a great stimulus to the design, manufacture, and flying of privately-owned aeroplanes.



to Lt. Col. W. Duncan and a D.H. "Dragon" to the Anglo-Persian Oil Co., presumably for transport in Persia, where the company makes a great deal of use of aircraft. Finally three of the new D.H. "Leopard Moths" which will be seen in the King's Cup Race are down as being owned by Sir Derwent Hall Caine, Mr. A. S. Butler, and Mr. A. H. Youngman.



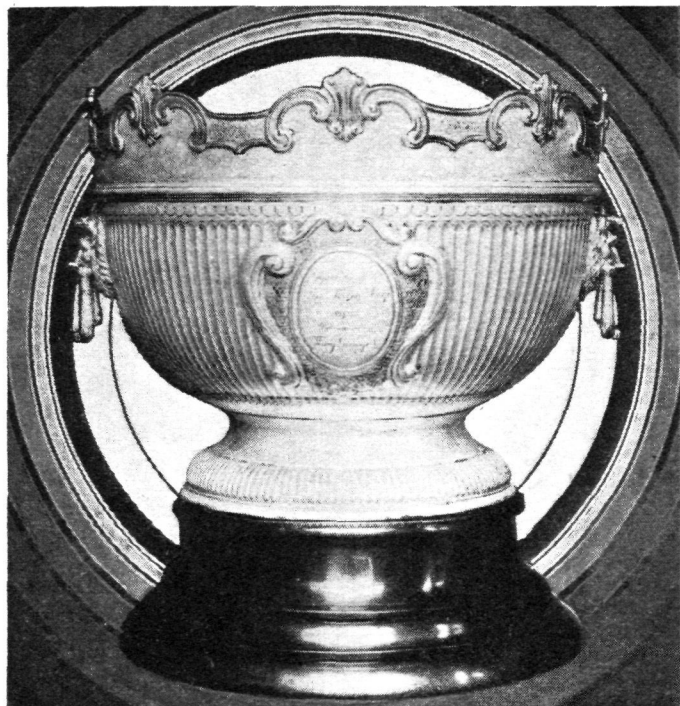
ONLY A "SPARTAN" WOULD ATTACK THE "HEYFORD": With a gunner above and a gunner below, in a rotatable turret, the new Handley Page night bomber is well defended. On this occasion the "Heyford" was piloted by Sqd. Ldr. T. England and the "Spartan" by Capt. Cordes. (FLIGHT Photos.)

King's Cup Race, 1933

WE have already pointed out in FLIGHT that this year's race for the King's Cup, which is to be flown from the de Havilland aerodrome at Hatfield on Saturday next, is different in character from previous King's Cup races. Hitherto it has been held that an air race for a cup presented by His Majesty should be designed to give as large a section of the population as possible an opportunity to see the competing machines. The race has always been a handicap, and when a handicap race is flown over such long distances as have hitherto had to be covered in the King's Cup Race, planes are apt to be strung out, and very close finishes are not to be counted upon. Doubtless this has been one of the reasons for the relatively small interest which the general public has taken in the race.

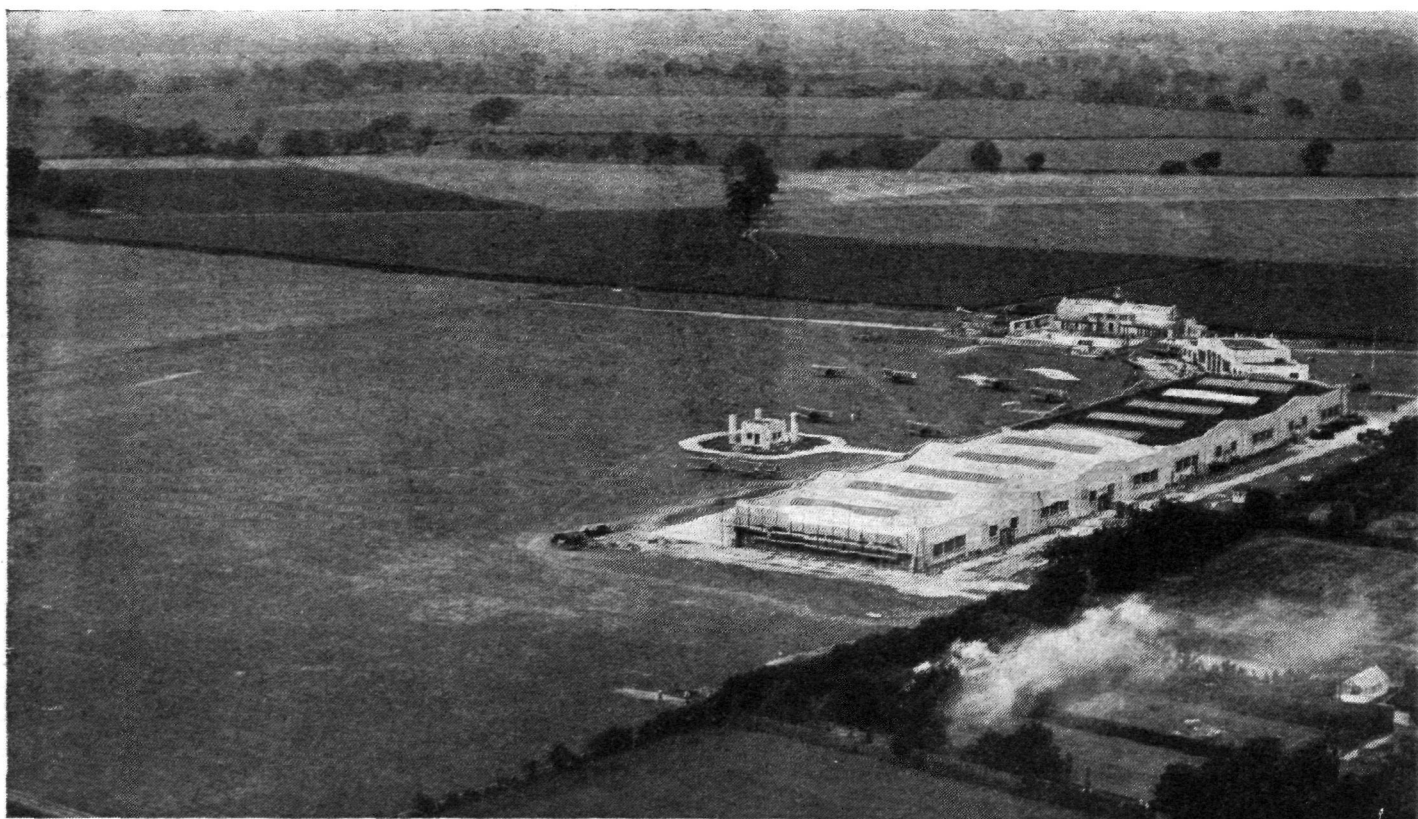
This year the King's Cup Race will consist of a series of short races, actually amounting to eliminating trials. Thirty-eight machines have been entered, and, although the Royal Aero Club has not yet announced details of the allocation of machines to the various races, it may be assumed that an endeavour will be made to run the races with some six or seven machines in each. The King's Cup course is divided into four rounds. All the machines entered will fly the first round, divided into heats. The first four machines from each heat will go into the next round, and so on until the final, which is the real King's Cup Race, in which there will be eight machines.

Until details are announced it is impossible to know exactly how the heats will be arranged and which machines will go in the different heats. For example, the heats *could* be arranged as follows (we do not say that they *will* be): First round, four heats of eight machines and one heat



of six machines. The second round would then consist of 20 machines, which could be arranged in two heats of seven machines and one heat of six machines. This would leave 12 machines for the third round, grouped in two heats of six machines, and there would be eight machines in the final. That is, approximately, the manner in which it is intended to run the race.

A feature of this year's King's Cup Race which does not appear to be generally understood is that the handicapping has been based on the short course, and not on the total number of miles to be flown by the machines which succeed in getting into the final. The lengths of the four courses are approximately the following:—First round, 224 miles; second round, 207 miles; third round, 195 miles; fourth and final round (two laps), 206 miles. The



THE SCENE OF THE 1933 KING'S CUP RACE : Hatfield Aerodrome, looking North North-East. (FLIGHT Photo.)

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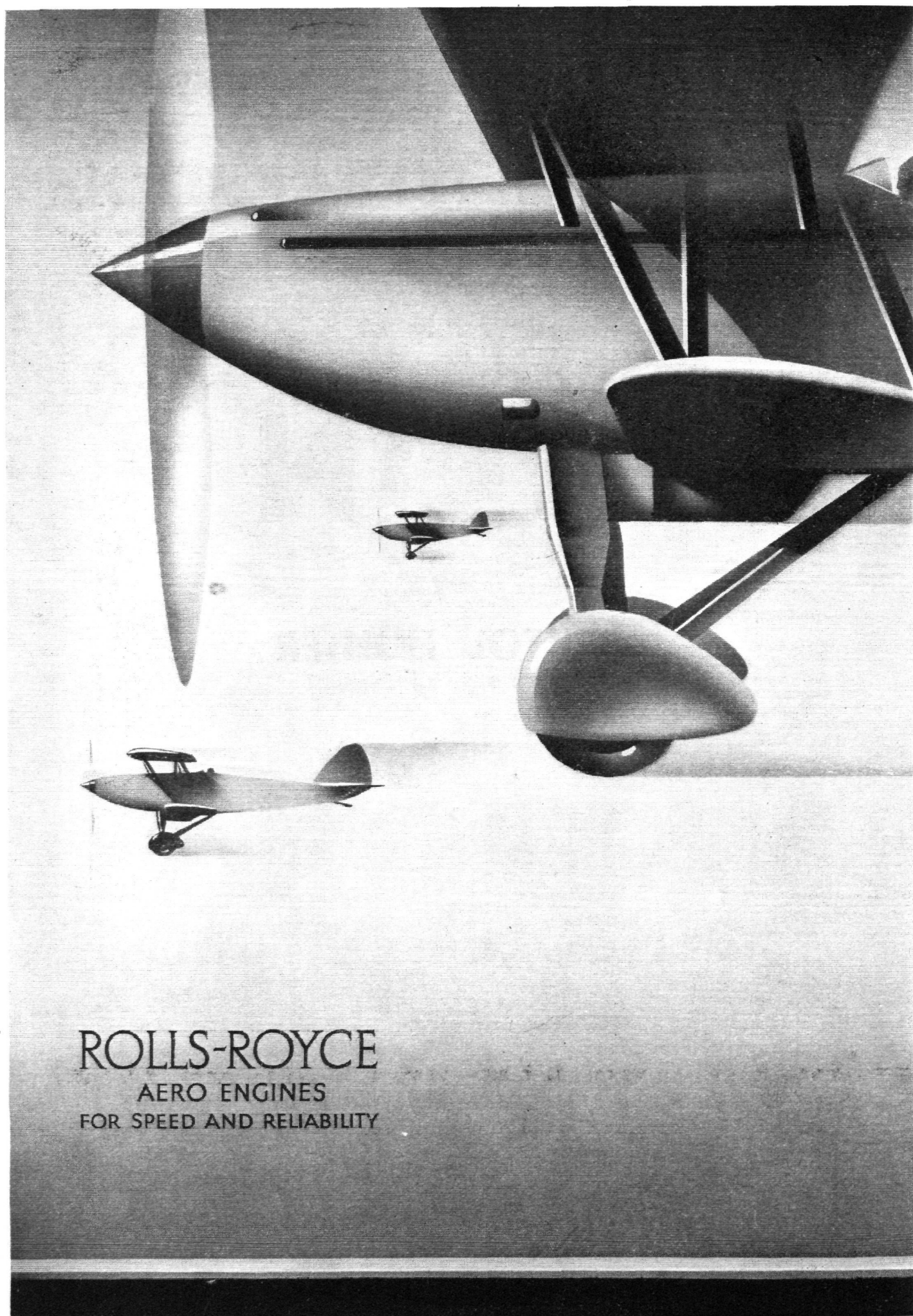
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| Racing No. | Registration Letters | Entrant | Pilot | Aircraft | Engine | Handicap Allowances | | | | Speed* m.p.h. |
|------------|----------------------|--------------------------------|-----------------------------------|--------------------------|----------------------|---------------------|---------|---------|---------|---------------|
| | | | | | | Rd. 1 | Rd. 2 | Rd. 3 | Final | |
| | | | | | | m. s. | m. s. | m. s. | m. s. | |
| 7 | G-ABIF | T. C. Sanders | T. C. Sanders | Martlet | Genet II | 43 07 | 39 51 | 37 33 | 39 40 | 110 |
| 12 | G-ACEG | Lt.-Col. L. A. Strange, D.S.O. | L. A. Strange | Spartan Clipper | Pobjoy | 43 07 | 39 51 | 37 33 | 39 40 | 110 |
| 14 | G-ACHJ | Wing-Com. H. M. Probyn, D.S.O. | H. M. Probyn | Miles Hawk | Cirrus III | 40 56 | 37 50 | 35 39 | 37 39 | 112 |
| 33 | G-AAPZ | W. S. Stephenson | Capt. E. D. Agre | Desoutter Mark I | Hermes II | 40 56 | 37 50 | 35 39 | 37 39 | 112 |
| 34 | G-ACHK | J. C. V. K. Watson | J. C. V. K. Watson | Hawk | Cirrus III | 40 56 | 37 50 | 35 39 | 37 39 | 112 |
| 15 | G-ABVW | Laurence Lipton | L. Lipton | D.H. Moth | Gipsy III | 32 56 | 30 26 | 28 41 | 30 18 | 120 |
| 32 | G-ACCW | Hon. Richard Westnra | R. Westnra | D.H. Moth | Gipsy Major | 32 00 | 29 35 | 27 53 | 29 27 | 121 |
| 26 | G-ABUU | Viscountess Hardinge | Fl./Lt. E. C. T. Edwards | Comper Swift | Pobjoy | 31 06 | 28 44 | 27 05 | 28 37 | 122 |
| 36 | G-ABWE | R. O. Shuttleworth | R. O. Shuttleworth | Comper Swift | Pobjoy | 31 06 | 28 44 | 27 05 | 28 37 | 122 |
| 39 | G-ABJR | Norman Killan | R. Bannister | Comper Swift | Pobjoy | 31 06 | 28 44 | 27 05 | 28 37 | 122 |
| 2 | G-ABDF | E. W. Hart | Fl./Lt. A. P. K. Hattersley | D.H. Puss Moth | Gipsy III | 27 36 | 25 30 | 24 02 | 25 24 | 126 |
| 3 | G-ABLS | E. Gandar-Dower | A. C. S. Irwin | D.H. Puss Moth | Gipsy III | 27 36 | 25 30 | 24 02 | 25 24 | 126 |
| 6 | G-ACGL | Alexander Henshaw | A. Henshaw | Comper Swift | Pobjoy | 27 36 | 25 30 | 24 02 | 25 24 | 126 |
| 38 | G-AAVD | F/O. Charles Allen | F/O. C. Allen | D.H. Puss Moth | Gipsy III | 27 36 | 25 30 | 24 02 | 25 24 | 126 |
| 42 | G-ABYW | Viscountess Furness | T. Campbell Black | D.H. Puss Moth | Gipsy III | 27 36 | 25 30 | 24 02 | 25 24 | 126 |
| 4 | G-ABMD | Mrs. Doris Sale | A. M. Diamant | D.H. Puss Moth | Gipsy III | 27 11 | 25 07 | 23 40 | 25 00 | 127 |
| 16 | G-ABLG | W. L. Runciman | W. L. Runciman | D.H. Puss Moth | Gipsy III | 27 11 | 25 07 | 23 40 | 25 00 | 127 |
| 31 | G-ABOF | M. D. L. Scott | M. D. L. Scott | D.H. Puss Moth | Gipsy III | 26 46 | 24 44 | 23 19 | 24 37 | 127 |
| 1 | G-AAYA | Hon. Lady Bailey | Lady Bailey | D.H. Puss Moth | Gipsy Major | 25 07 | 23 13 | 21 53 | 23 07 | 128 |
| 22 | G-ACFG | The Lord Wakefield of Hythe | H. S. Broad | D.H. Dragon | Gipsy Major (2) | 24 19 | 22 28 | 21 11 | 22 23 | 130 |
| 37 | G-ABVP | A. C. M. Jackaman | A. C. M. Jackaman | Monospar | Pobjoy (2) | 23 32 | 21 45 | 20 30 | 21 39 | 131 |
| 18 | G-ABIX | Woolf Barnato | Ft./Lt. E. A. Healy | Arrow Active | Hermes IIb | 22 45 | 21 01 | 19 49 | 20 56 | 132 |
| 24 | G-ACHB | A. S. Butler | Mrs. A. S. Butler | D. H. Leopard Moth | Gipsy Major | 21 59 | 20 19 | 19 09 | 20 14 | 133 |
| 30 | G-ACHC | Sir D. Hall Caine | A. J. Styran | D.H. Leopard Moth | Gipsy Major | 21 59 | 20 19 | 19 09 | 20 14 | 133 |
| 23 | G-ACHD | Capt. de Havilland | Capt. de Havilland | D.H. Leopard Moth | Gipsy Major | 21 36 | 19 58 | 18 49 | 19 53 | 134 |
| 5 | G-ABVE | C. G. Grey | F/O. H. H. Leech | Arrow Active | Gipsy III | 21 14 | 19 37 | 18 30 | 19 32 | 134 |
| 8 | G-ABOD | Sir W. Morris, Bt. | P. E. G. Sayer | Hawker Tomtit | Wolseley A.R.9 | 20 29 | 18 56 | 17 51 | 18 51 | 135 |
| 20 | G-ACGI | Ft./Lt. H. M. Schofield | H. M. Schofield | Monospar | Pobjoy (2) | 18 19 | 16 56 | 15 58 | 16 52 | 138 |
| 9 | G-ABAX | Sir W. Morris, Bt. | Fl./Lt. P. W. S. Bulman | Hawker Tomtit | Wolseley A.R.9 | 17 37 | 16 17 | 15 21 | 16 13 | 139 |
| 19 | G-AAVT | C. S. Napier | C. S. Napier | Hendy | Hermes IV | 16 56 | 15 39 | 14 45 | 15 35 | 140 |
| 10 | G-AASI | Sir W. Morris, Bt. | G. E. Lowdell | Hawker Tomtit | Wolseley A.R.9 | 15 35 | 14 24 | 13 35 | 14 21 | 143 |
| 17 | G-ACGR | Sir Philip Sassoon, Bt. | F/O. G. R. A. Elsmie | Percival Gull | Napier Javelin | 7 22 | 6 48 | 6 25 | 6 47 | 156 |
| 29 | G-ACGP | Air Vice-Marshal A. E. Borton | A. E. Borton | Percival Gull | Napier Javelin | 7 05 | 6 33 | 6 11 | 6 32 | 157 |
| 40 | G-ABUR | H.R.H. Prince George | Fl./Lt. J. G. D. Armour | Percival Gull | Napier Javelin | 6 32 | 6 03 | 5 42 | 6 02 | 158 |
| 11 | G-ACHA | Lt.-Com. E. W. Leake, D.S.O. | E. W. Percival | Percival Gull | Napier Javelin | 5 28 | 5 03 | 4 46 | 5 02 | 160 |
| 27 | G-ACBY | F. R. Walker | F. R. Walker | Comper Swift | Gipsy III | 4 56 | 4 34 | 4 19 | 4 33 | 161 |
| 21 | G-ABWH | S. A. Sadler | W. L. Hope | Comper Swift | Gipsy III | 3 23 | 3 08 | 2 58 | 3 08 | 163 |
| 28 | G-ABWW | Sir N. J. Watson, Bt. | Fl./Lt. G. H. Stainforth | Comper Swift | Gipsy Major | Scratch | Scratch | Scratch | Scratch | 172 |

* The speeds are quite unofficial, and are based on the assumption that Nos. 7 and 12 do 110 m.p.h., and No. 28, 172 m.p.h.

fact that the handicapping is done on each short distance should ensure that quite a number of close finishes are secured during the day, since even if one competitor should manage to "cheat" the handicappers, the gap between him and the next man should be but small.

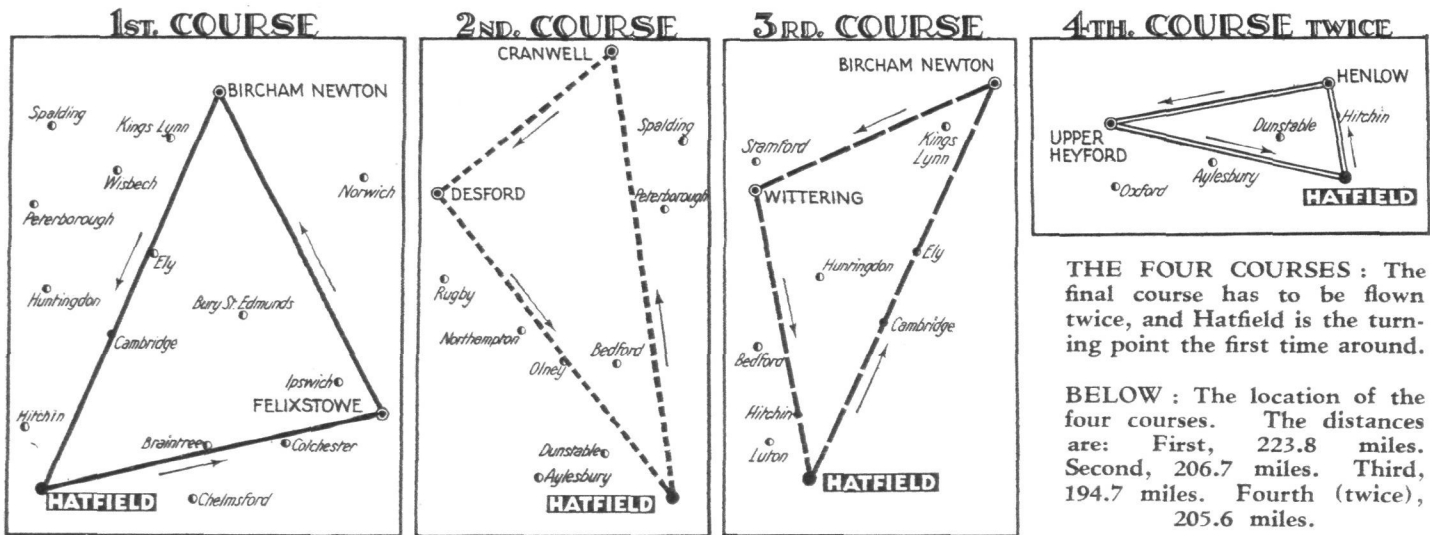
In previous years FLIGHT has urged, and at long last managed to get adopted, the idea that machines should carry racing numbers corresponding to their handicap allowances. In other words, the limit man should carry 1 as his racing number and the scratch man should have the highest number. In that way it is much easier to see how competitors are overtaking each other. This year the racing numbers have no relation to the handicap allowances, but represent, in fact, the sequence in which the machines were entered. This sequence is, of course, of no particular interest or significance, but as this year's King's

Cup is to be flown as a series of eliminating trials, the numbers will be "mixed up" in any case, and this numbering is therefore as good as any other.

Handicap Speeds

In the table above we give particulars of the entries for the King's Cup Race. As received from the Royal Aero Club this table was arranged in accordance with racing numbers. As this seemed very confusing, we have rearranged the table in handicap order, which explains the apparent muddle of the racing numbers.

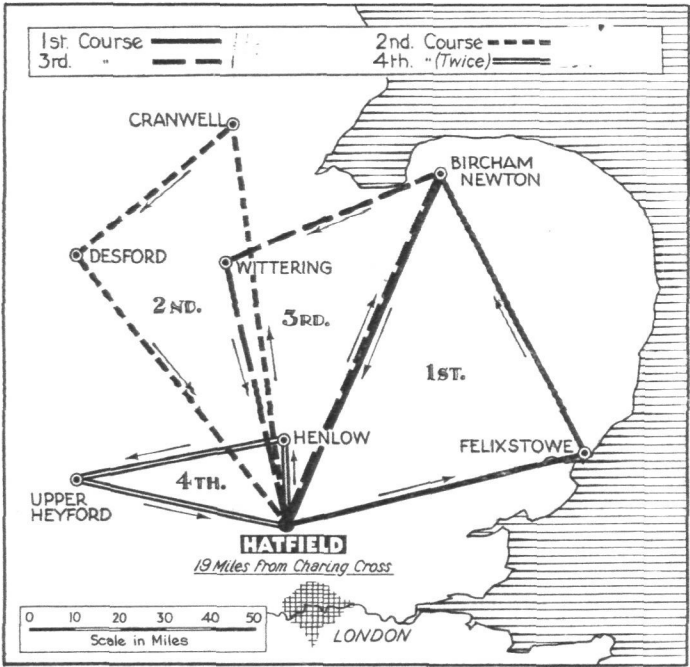
The last column of the table needs a little explanation. Naturally, we have no means of knowing what speeds Messrs. Rowarth and Dancy have estimated for each machine entered. As we felt that handicap figures in them-



selves are not very useful to our readers for forming an opinion of the sort of speeds the machines will have to do in order to stand a chance in the race, we have taken the liberty of making the best guess we could. Taking the limit machines at 110 m.p.h., which is the lowest speed at which machines are handicapped in the race, it was found that this made the scratch machine do about 172 m.p.h. As the *Coupe Deutsch Comper "Swift"* is reputed to be capable of about 178-180 m.p.h., and an allowance should be made for time spent in taking off and lost in rounding the corners of the different rounds, this appears fairly reasonable, and the speeds which we have worked out are based on 110 m.p.h. for the limit man and 172 m.p.h. for the scratch man. Actually, it is quite likely that the handicappers have calculated their figures on 112 m.p.h. for the limit machine, which would make the scratch machine about 176½ m.p.h. Thus it will be seen that if we have not "guessed" quite right, and the speeds actually used as a basis by the handicappers are slightly different, the speed column of our table should still be useful in giving a good indication of the *relative* speeds which the different machines should do.

| KING'S CUP AIRCRAFT TYPES | | |
|---------------------------------|--------------|--|
| De Havilland "Puss Moth" ... | 8 | |
| Comper "Swift" ... | 7 | |
| Percival "Gull" ... | 4 | |
| De Havilland "Leopard Moth" ... | 3 | |
| Hawker "Tomtit" ... | 3 | |
| De Havilland "Moth" ... | 2 | |
| Miles "Hawk" ... | 2 | |
| Stieger "Monospar" ... | 2 | |
| "Arrow Active" ... | 2 | |
| De Havilland "Dragon" ... | 1 | |
| Desoutter ... | 1 | |
| Hendy 302 ... | 1 | |
| Southern "Martlet" ... | 1 | |
| Spartan "Clipper" ... | 1 | |
| Total ... | 38 machines. | |
| 14 different types. | | |

| ENGINE TYPES IN KING'S CUP RACE | | |
|-----------------------------------|-------------|--|
| De Havilland "Gipsy III" ... | 11 | |
| Pobjoy "R" ... | 9 | |
| De Havilland "Gipsy Major" ... | 8 | |
| Napier "Javelin" ... | 4 | |
| Wolseley A.R.9 ... | 3 | |
| "Cirrus III" ... | 2 | |
| Armstrong-Siddeley "Genet II" ... | 1 | |
| "Hermes II" ... | 1 | |
| "Hermes II B" ... | 1 | |
| "Hermes IV" ... | 1 | |
| Total ... | 41 engines. | |
| 10 types. | | |



ARRANGEMENTS AT HATFIELD

The de Havilland Aircraft Co., Ltd., have made very elaborate arrangements at the Hatfield Aerodrome for the accommodation of visitors. Enclosures have been erected from which the start and finish of the racing aeroplanes can be seen. Tickets are 1s. 6d., 2s. 6d. and 5s., while the charges for vehicles are: Motor cars 2s. 6d., motor cycles and sidecars 1s. 6d. and motor cycles solo 6d. The car parks have been so arranged that motor cars can be parked right up to the rails, so that, should the weather be unkind, spectators will be able to watch the flying from the comfort of their cars. For those who prefer to be in the open there are large supplies of chairs.

The race for the King's Cup has been so arranged this year that it virtually consists of a series of short races. It may even be that the start of one heat will take place before the finish of the previous heat, so that there should be something to watch all day. If, however, any gaps should occur, preparations have been made for certain interesting events to be flown, so that literally there should be few moments during the day when there is not at least one aeroplane in the sky.

The race will be flown in a number of heats, and over four separate courses. The start and finish of all are at Hatfield, and the first course is to Felixstowe and Bircham Newton. The distances are: Hatfield-Felixstowe, 67.9 miles; Felixstowe-Bircham Newton, 70.3 miles; Bircham Newton-Hatfield, 85.6 miles; total, 223.8 miles. At 110 m.p.h. an aeroplane will cover this distance in a couple of minutes over 2 hr. At 180 m.p.h. a machine would take about 1¼ hr. to cover the course. Felixstowe and

Bircham Newton are turning points only. The machines do not land there.

The second course is via Cranwell and Desford (Leicester). The distances are: Hatfield-Cranwell, 88.7 miles; Cranwell-Desford, 44.5 miles; Desford-Hatfield, 73.5 miles; total, 206.7 miles. Cranwell and Desford are turning points only.

The third course is as follows: Hatfield-Bircham Newton, 85.6 miles; Bircham Newton-Wittering, 49.7 miles; Wittering-Hatfield, 59.4 miles; total, 194.7 miles.

In the fourth and last course a change has been made in that this is a short one, and has to be flown twice. This means that the machines will round the turning point at Hatfield after the first lap, so that visitors will be able to see the machines closing up and will doubtless see some fine banking around the Hatfield turning point. The distances in the last course are: Hatfield-Henlow, 17.1 miles; Henlow-Upper Heyford, 41.2 miles; Upper Heyford-Hatfield, 44.5 miles; distance one lap, 102.8 miles; total distance two laps, 205.6 miles; grand total for all four courses, 830.8 miles.

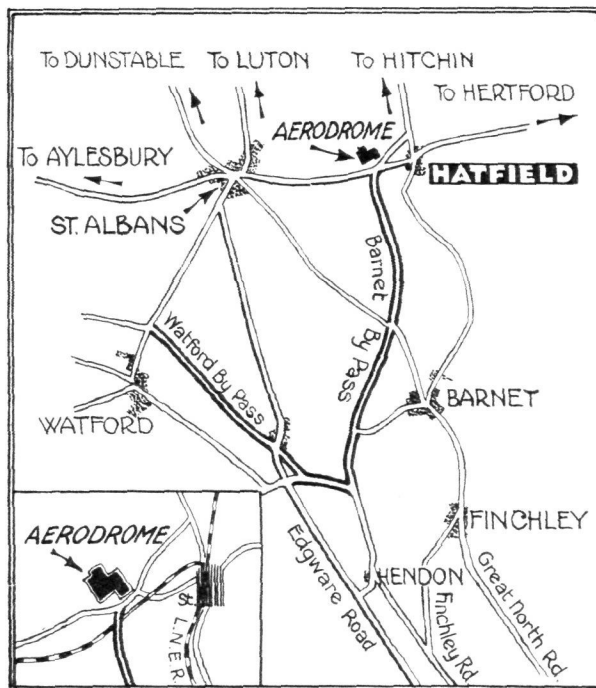
The first heat is scheduled to start at 8 a.m., and it is expected that the winner will cross the finishing line in the final at approximately 5 p.m. Score boards will give information about the progress of the race.

How to get there

The location of Hatfield Aerodrome in relation to London is not, perhaps, quite as well known as those of Hendon, Brooklands, Heston or Croydon. This is the first large meeting to be held there, and a few words about the best routes may, perhaps, be of assistance.

Hatfield Aerodrome is situated close to the St. Albans-Hatfield road to the west of Hatfield town. From London the aerodrome is reached, by private motor car, via the Barnet by-pass. FLIGHT readers in London should have no difficulty in finding their way, but to assist it may be pointed out that there are three main routes from the Charing Cross district. One may go via Kingsway, Southampton Row, across Euston Road and along Seymour Street to Mornington Crescent and Camden Town. At Camden Town continue along Chalk Farm Road to Chalk Farm Tube station. Here take the left fork, Adelaide Road, which leads into Finchley Road, near Swiss Cottage. Along Finchley Road to Childs Hill. Bear left down Hendon Way, which leads into Watford Way, past Mill Hill, until the Barnet by-pass is reached. This leads right to the vicinity of the aerodrome.

The same route may be struck at Mornington Crescent



HOW TO GET THERE: Sketch map of the location of and approaches to Hatfield Aerodrome. The Barnet By-pass is the best route from London.

by going up Charing Cross Road, Tottenham Court Road and Hampstead Road.

A slightly more westerly route is from Oxford Street up Orchard Street (by Selfridge's), Baker Street, Upper Baker Street, Park Road, Wellington Road (by Lord's cricket ground) into Finchley Road.

Still farther west, one may go along Edgware Road as far as the North Circular Road, near the Welsh Harp. Here turn right along the North Circular until the Watford by-pass road is reached, along which one turns left, and the route is the same as previously noted.

It is also possible to continue along Finchley Road, through Golders Green, North Finchley (Tally Ho) and Whetstone as far as High Barnet. Near the northern end of Barnet take the left fork, which is the main Barnet-St. Albans road. This road crosses the Barnet by-pass a few miles north of Barnet.

Green Line coaches (the Reigate-Hitchin service) go through Hatfield, but as these follow the Great North Road they pass some distance from the aerodrome.

There is a 'bus service from Hatfield railway station to the aerodrome gates. A number of L.G.O.C. 'bus routes serve Hatfield.

There is a good train service by the L.N.E.R. from King's Cross to Hatfield Town, and also a cross-country service from Watford and St. Albans.

MACHINES IN THE KING'S CUP RACE

Relatively few new aeroplane types have been entered for this year's King's Cup Race. The fact that the race is a handicap necessarily means that it is the difference between the actual speed of a machine and the speed which the handicapper estimates that it will do which counts. There is thus little incentive for the manufacturer to produce new types specially for the race, although if a firm is in any case contemplating putting a new type on the market, the King's Cup Race is often chosen as the occasion for the first appearance of the machine.

This year the de Havilland Aircraft Co., Ltd., will be represented by three specimens of the new "Leopard Moth." This machine is intended ultimately to replace the "Puss Moth," and is a three-seater of wood construction, with the pilot placed in front and two passengers side by side behind him. The engine is a de Havilland "Gipsy Major." In the race one machine will be piloted by Mrs. A. S. Butler, wife of the chairman of the de Havilland Aircraft Co., Ltd., one by Mr. A. J. Styran, and one by Capt. G. de Havilland himself. The handicap allow-



FIRST PUBLIC APPEARANCE: The de Havilland "Leopard Moth" ("Gipsy Major"). This is one of the experimental machines. Those in the King's Cup Race will have the registration numbers G-ACHB, ACHC and ACHD. For the last machine it may be remembered that "DH" is flying "HD." (FLIGHT Photo.)

ances indicate that the handicappers estimate that the "Leopard Moth" should do 132-134 m.p.h. maximum speed.

Flt. Lt. N. Comper was to have had his latest type, the "Mouse," in the race, but the machine could not be got ready in time, and will not be flying. This is a low-wing cantilever monoplane three seater with retractable undercarriage, and would have been a very interesting entry.

The new "Monospar" ST 6, to be piloted in the race by Flt. Lt. Schofield, is similar to the ST 4, and has two Pobjoy engines. It has, however, been fitted with a new retractable undercarriage, and it would appear that the handicappers estimate its speed at close upon 140 m.p.h., while the corresponding figure for the ST 4 is 131-132 m.p.h. It will be interesting to see if the 7 m.p.h. increase is attained or exceeded.

The Hendy monoplane ("Hermes IV") entered and flown by Mr. C. S. Napier is the old Hendy 302 rejuvenated, with a new style of cabin top, as shown in the photograph of it we published last week, and an inverted "Hermes IV" engine in place of the "upright" "Hermes II." The handicappers appear to think the 302 capable of about 140 m.p.h. It is interesting to recall, in this connection, that in the 1930 King's Cup Race the Hendy 302, piloted by Percival, averaged 121.5 m.p.h. over the whole course.

The three Hawker "Tomtits," to be piloted by Bulman, Sayer and Lowdell respectively, are not new machines, but they are fitted with the new Wolseley engines, which are appearing for the first time. An estimate of 136 to 142 m.p.h. would appear a little optimistic, but doubtless the handicappers had more information about the machines than most other mortals.

The Miles "Hawk" with "Cirrus III" engine is not a fast machine, but has been designed rather to be easy to fly and to land. It is not, therefore, surprising to find it near the slower end of the speed scale. Whether its speed has been underestimated or not is difficult to say. At any rate, there cannot be very much in it.

The scratch machine is the Comper "Swift" ("Gipsy Major") flown by Flt. Lt. N. Comper in the recent *Coupe Deutsch*. On that occasion Mr. Comper's average speed was disappointingly low, but he was having oil cooling trouble. This has now been overcome, and the machine should be capable of the 172 m.p.h. which, apparently, the handicappers have given it.

Any machine piloted by Mr. Hope in the King's Cup Race is always a subject of keen interest. His machine this year has been fitted with a small cabin roof, and should be capable of averaging 163 m.p.h. around the courses, even allowing for the take-off and the two corners in each course.

Lady Bailey's "Puss Moth" has been fitted with a "Gipsy Major" engine instead of the "Gipsy III," and 128-129 m.p.h. should be well within the capacity of this

machine. Conversely, we have the "Moth" flown by Broad in last year's King's Cup, which has now been fitted with a "Gipsy III" instead of the first of the "Majors" which it had last year. The handicappers seem to think that this has reduced the speed of G-ABVW from the 131 m.p.h. which Broad averaged last year to something like 120 m.p.h.

Last year it was possible to foresee that, barring accidents, Hope on the cleaned-up "Fox Moth" should stand a good chance. This year there is no such fairly obvious "gift," although No. 15 looks promising.

The little Spartan "Clipper" (Pobjoy) at a handicap speed of about 110-112 m.p.h. should be worth watching, especially as it is being piloted by Col. Strange.

Altogether the race this year promises to be "anybody's race," and close finishes should be the order of the day from morning till night.

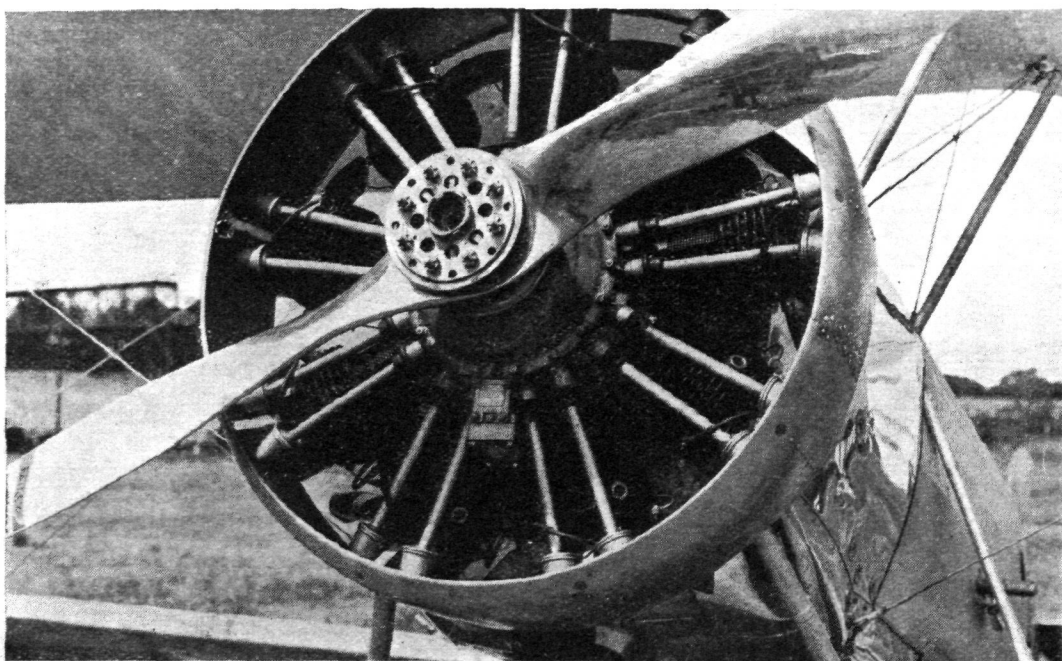
King's Cup Items

MEMBERS of the Royal Aero Club, or those who have paid admittance to the 5s. enclosure, can stay and make an evening of it at Hatfield after the race is over. Dinners will be served, a band will play, there are two squash courts and the swimming pool will be floodlit. Any who wish to stay the night have only to send in their names to Mr. Thom, The de Havilland Aircraft Co., Ltd., Stag Lane, Edgware, and accommodation will be fixed up for them. These facilities should prove especially useful to successful competitors who wish to celebrate.

THE Headmaster of Mill Hill School has written to us to point out that to-morrow, Friday, is Speech Day at the school, and that low flying in the close vicinity of Mill Hill School is likely to interfere seriously with the proceedings. Competitors in the King's Cup Race, and others who may be flying to Hatfield Aerodrome to-morrow, are therefore requested to give the school as wide a berth as possible during the period midday to 6 or 7 p.m.

THE Air Ministry has issued Notice to Airmen No. 43 of 1933, which states:—"Pilots of aircraft not taking part in the King's Cup Air Race, 1933, are requested to avoid, as far as possible, landing at Hatfield Aerodrome between 0730 and 1930 hours on July 8, 1933, as competing aircraft will be taking off and landing continuously during that period. On the above-mentioned date, no aircraft may take-off from the aerodrome without the permission of the Control Official. The Notice is signed by C. Ll. Bullock. We would humbly point out to Sir Christopher that "take-off" is a noun.

A CELLON Service Van will be available at Hatfield on Friday and Saturday, July 7 and 8, to give all possible assistance to competitors in the King's Cup who may require help in connection with doping materials.



THE NEW WOLSELEY ENGINE: This is the first photograph to be published, and shows the engine in the Hawker "Tomtit," to be flown in the King's Cup Race by Mr. Sayer (No. 8). (FLIGHT Photo.)



The Royal party leaving the Aurora.

IN A BRITISH LINER

BRUSSELS, FRIDAY.

From our Special Correspondent.

AN event believed to be unique in annals of the air took place this afternoon, when four members of a Royal Family flew together in an aeroplane.

They were the King and Queen of the Belgians and the Duke and Duchess of Brabant, and their flight was from Brussels to Antwerp and back in the Aurora, the newest of the Imperial Airways machines, which is to be used on the Australian service.

King Albert has flown in every previous type of Imperial Airways machine, and it was in response to his wish that the Aurora came from London to Brussels to-day.

ABSENCE OF NOISE.

All the royal fliers were thoroughly delighted with the trip, which lasted nearly an hour. From one of their suite I learn that they moved repeatedly from window to window, pointing out places of interest.

They were all agreeably surprised at the steadiness of the aeroplane, while the King remarked on the almost complete absence of noise.

The Queen said that she had never realised that Antwerp was so big a city until she saw it this afternoon from the British Air Liner.

The drawing-room arrangements of the passenger cabin, which has accommodation for nine persons, made a special appeal to the Queen and the Duchess.

Extracts from the "Daily Mail", June 10th, 1933.

The Aurora is one of the fleet of four-engined monoplanes designed and built for Messrs. Imperial Airways Limited, by

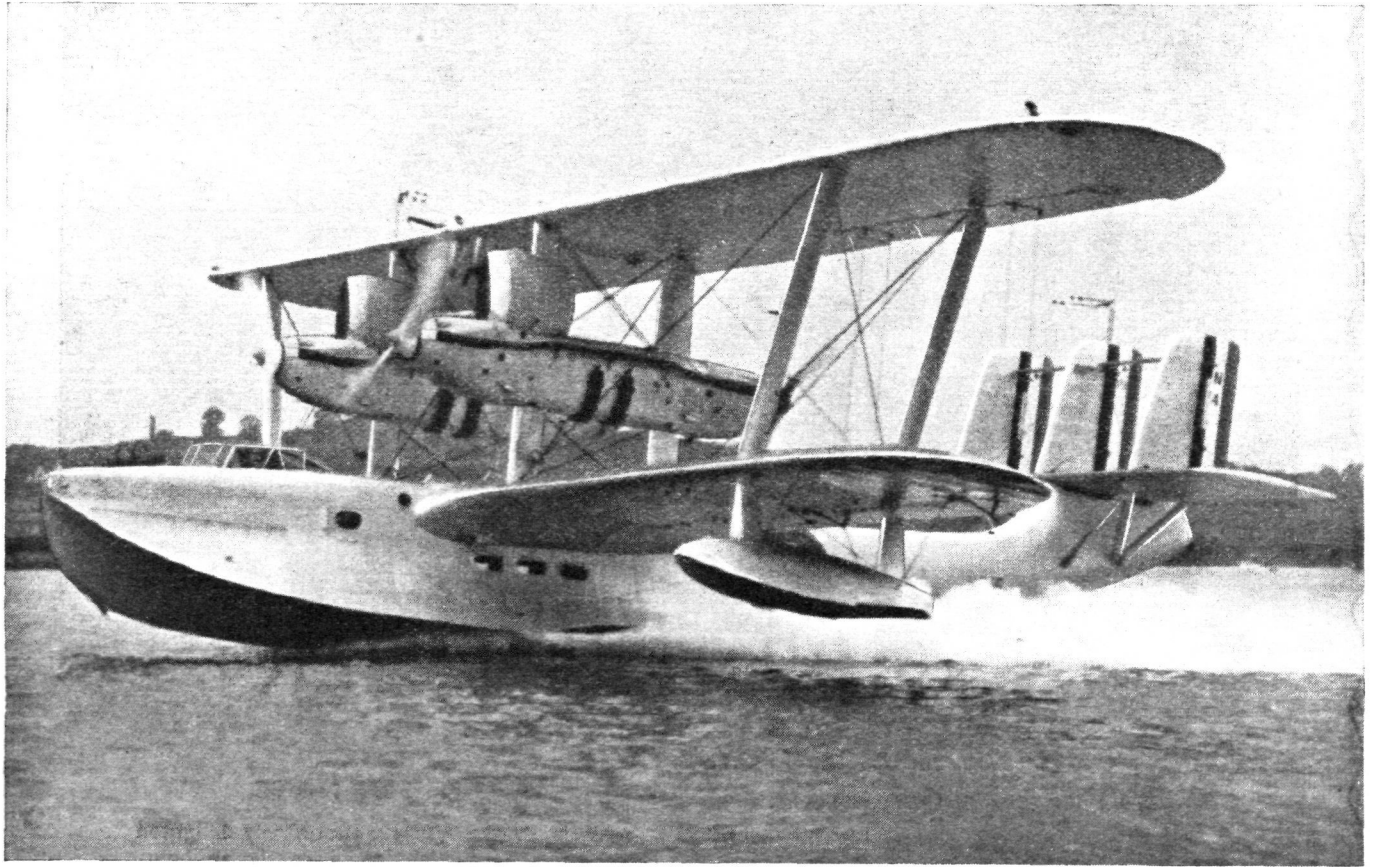
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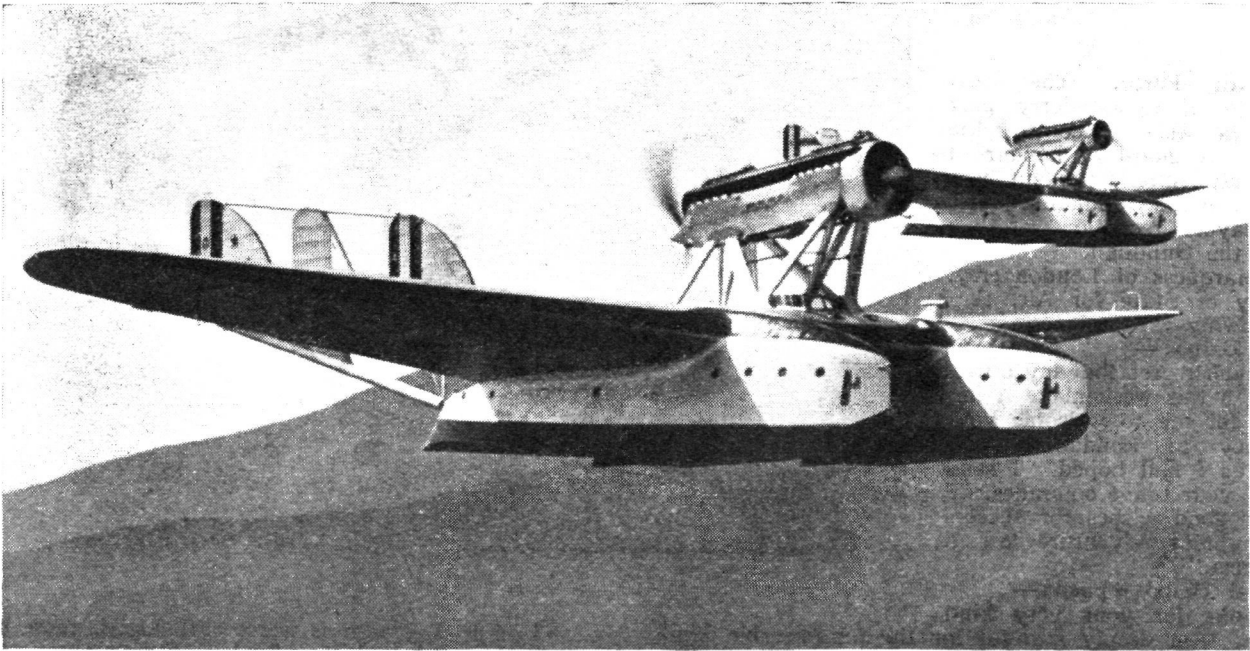
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ITALIAN ROYAL AIR FORCE FLIGHT



OVER THE MOUNTAINS: Two of the Savoia-Marchetti S.55.X flying-boats in formation.

AFTER a rather long wait for favourable weather reports, the two squadrons of Italian flying boats, consisting of 24 Savoia-Marchetti twin-hull S.55X. seaplanes with two Isotta-Fraschini 18-cylinder water-cooled engines each, mounted fore and aft above the monoplane wing, took off from Orbetello on Saturday, July 1, and flew in formation to Amsterdam. On landing in the Zuiderzee at Schellingwoude, the Amsterdam seaplane station, one boat, of which Flt. Lt. Baldini was chief pilot, capsized, it is reported, through coming down in shallow water and burying her nose in the mud. One non-commissioned officer was killed, and the commander, F/O. Novelli, and two other N.C.O.'s were injured. A reserve machine immediately took the place of the damaged one in the wing. On Sunday, July 2, the machines came on to Lough Foyle, in Northern Ireland.

The wing is divided into eight flights of three machines each. Two flights have black as their distinguishing colour, two have red, two white, and two green. In each colour one flight is marked with stars and one with circles. A flight leader has one star or circle on his fin, his right-hand machine two badges, and the left-hand one three. Thus, Gen. Balbo's machine has black markings with one cross. Each machine is also marked "I"—and four letters of the pilot's name. In this way each machine can be easily recognised from a distance. Each flight flies in V formation, stepped down. The wing flies in lines of flights abreast. Each chief pilot has been allowed to choose his second pilot, and the two other members of his crew. The regular crew is four persons, but a few machines are carrying five. The chief pilots of the machines are:—Gen. Balbo, Flt. Lts. Questa and Biseo, Gen. Pelligrini, Flt. Lts. Miglia, Borghetti, Nannini, Lippi, Rovis, Leone, Teucci, Giordano, Napoli, Verzelloni, Recagno, Gallo, Abbiata, Biani, Ranieri, Aramu, Longo, Cannistracci, and Calo.

The whole flight of some 100 officers and men have been working together for some considerable time, and have had

ample opportunity to become one harmonious whole.

The first day's flight included a crossing of the Alps, the first crossing of its kind. If mechanical trouble had forced a machine down, a very bad crash would inevitably have resulted. The weight of the machines fully loaded is about 11 tons, though probably rather less than the full petrol load which was carried when crossing the Alps.

The route from Orbetello was to Genoa, crossing the Appenines by the Giovi Pass among mountains over 10,000 ft. high, to Sesto Calende, at the southern end of Lake Maggiore. From there they turned westward to Como, and then due north over the Splügen Pass, flying at over 13,000 ft. among the high peaks of the Alps. The route then lay over Malans, Zurich and Basle. After Basle the route followed the Rhine, where forced landings would have been possible on many reaches of the river, though not on all. Fortunately, no such necessity arose. The wing flew over Mayence and Düsseldorf, and then reached the Zuiderzee. It seemed doubly tragic that after all the serious difficulties of the journey had been left behind, disaster should befall one machine when landing on smooth water.



H.E. General Italo Balbo, Italian Air Minister and leader of the Flight.

Arrival in Ireland

On leaving Amsterdam on Sunday, the wing first met low clouds over the North Sea, and the seaplanes had to fly just above the water for a time, which naturally did not cause so much anxiety as clouds over the land would have caused them. After an hour the weather cleared, and they found blue sky above and a calm sea below. They approached Scotland on the east coast and crossed from the Firth of Forth to the Firth of Clyde, which gave the shortest land crossing, and then made for North Ireland. They reached Lough Foyle at 12.30 p.m. and landed without mishap. They were escorted over the Lough by five "Southamptons" of No. 201 (Flying Boat) Squadron. Gen. Balbo and his principal officers went ashore at once in a motor-boat, and were welcomed by Air Vice-Marshall Clark-Hall, A.O.C. Coastal Area, on behalf of the

THE POWER : The mounting of the two Isotta-Fraschina "asso 750" engines.

Royal Air Force. The local authorities of Londonderry port and town also welcomed the Italians. A guard of honour of the Leicestershire Regiment was drawn up in the Guildhall Square, and a mayoral reception was then held in the Guildhall.

The Marquess of Londonderry, Secretary of State for Air, sent the following wireless message to General Balbo:—

"I much regret that my duties in London this week make it impossible for me to welcome your Excellency to Londonderry in person, as I had hoped. I send you and your brave comrades my heartiest good wishes for success in your great adventure and a safe return."

General Balbo replied:—

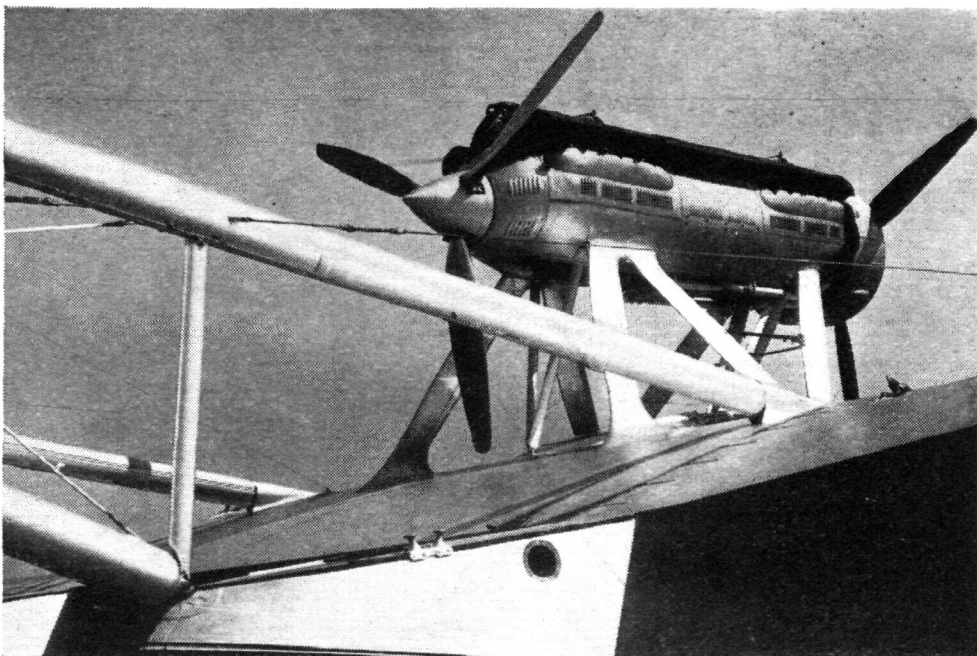
"Thanks for your very kind telegram. Am deeply grateful for the innumerable kindnesses received from the Air Ministry and citizens. I am sending you my best greetings in the hope that the successful issue of the flight I am undertaking will allow of my visiting you in London on my return."

Lord Londonderry's Dash by Air

However, Lord Londonderry, as soon as he had left a luncheon on Monday, given at the Carlton Hotel by the Foreign Air Attachés in London to officials of the Air Ministry, motored to Hendon and entered a "Hart" belonging to No. 24 (Communications) Squadron and flew to Aldergrove aerodrome, on the banks of Lough Neagh, near Antrim, stopping once at Sealand to re-fuel. On Lough Neagh a "Southampton" of No. 201 (F.B.) Squadron was waiting to take him on to Lough Foyle, as there is no suitable land aerodrome near Londonderry, so that he might call personally on Gen. Balbo.

The original intention had been for the Italian wing to leave Ireland on Monday for Reykjavik in Iceland, a flight of 1,500 miles, but the meteorological experts reported bad weather in the North Atlantic, and the General wisely decided to postpone his departure. In any case this is a difficult section of the route. There the warm Gulf Stream meets the cold waters from the Arctic, and fogs are a frequent result. The sea, too, is often very rough. One of the American seaplanes was forced down in the sea on this section in 1924, and the crew would probably have been lost had not the U.S.A. Navy been ready to come to the rescue in such emergencies.

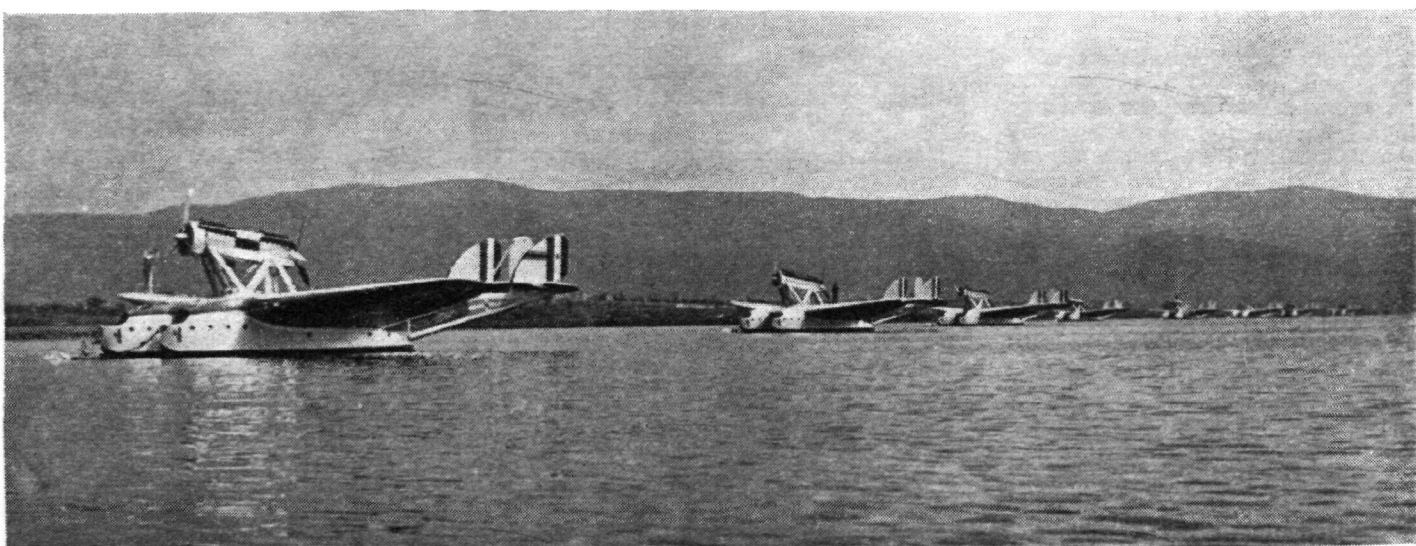
Even the section to Iceland is not the worst. From



Iceland on to Labrador is worse still, and is more subject to extensive and high fog banks. Flying through these fog banks the pilots have to rely on their instruments entirely. Modern instrument flying has been brought to a fine art, but the danger of collision is not slight when there are 24 machines flying in formation through the darkness. Slight variations in engine revolutions may cause a machine to lose its place in the formation, and no pilot may know where his nearest neighbours are. The neighbourhood of Cape Farewell in Greenland is especially subject to sudden storms; in fact, it is one of the stormiest places in the world. From Greenland to Labrador the sea is full of ice floes, into which the pack-ice breaks up when meeting the warmer water, and there are also numerous drifting icebergs. The normal winds, too, blow from the west and reduce the ground speed of aircraft. Not only the crews, but all their friends, will be intensely relieved when the passage of the North Atlantic is a thing of the past. Fogs, however, are apt to continue along the Labrador coast and in the Gulf of St. Lawrence.

Matters should be easier when United States territory is reached. The wing hope to carry a message of goodwill from the people of Italy to the people of the United States on the occasion of the Chicago World Exhibition, and will visit Chicago before flying on to New York.

The itinerary drawn up for the flight after leaving Iceland is Cartwright, Shediac, Montreal, Chicago, and New York. The distance flown from Rome will be 7,065 miles, or 11,300 kilometres. The return flight will be made by a more southerly and easier route.



AFLOAT : The Italian Wing before the Start.

ANOTHER WORLD'S RECORD

... "The engine ran faultlessly for the 57 hours 25 minutes we were in the air.

We did not experience one qualm on its account throughout the flight." ...

Squadron Leader O. R. GAYFORD
in a published cable to the Air Ministry



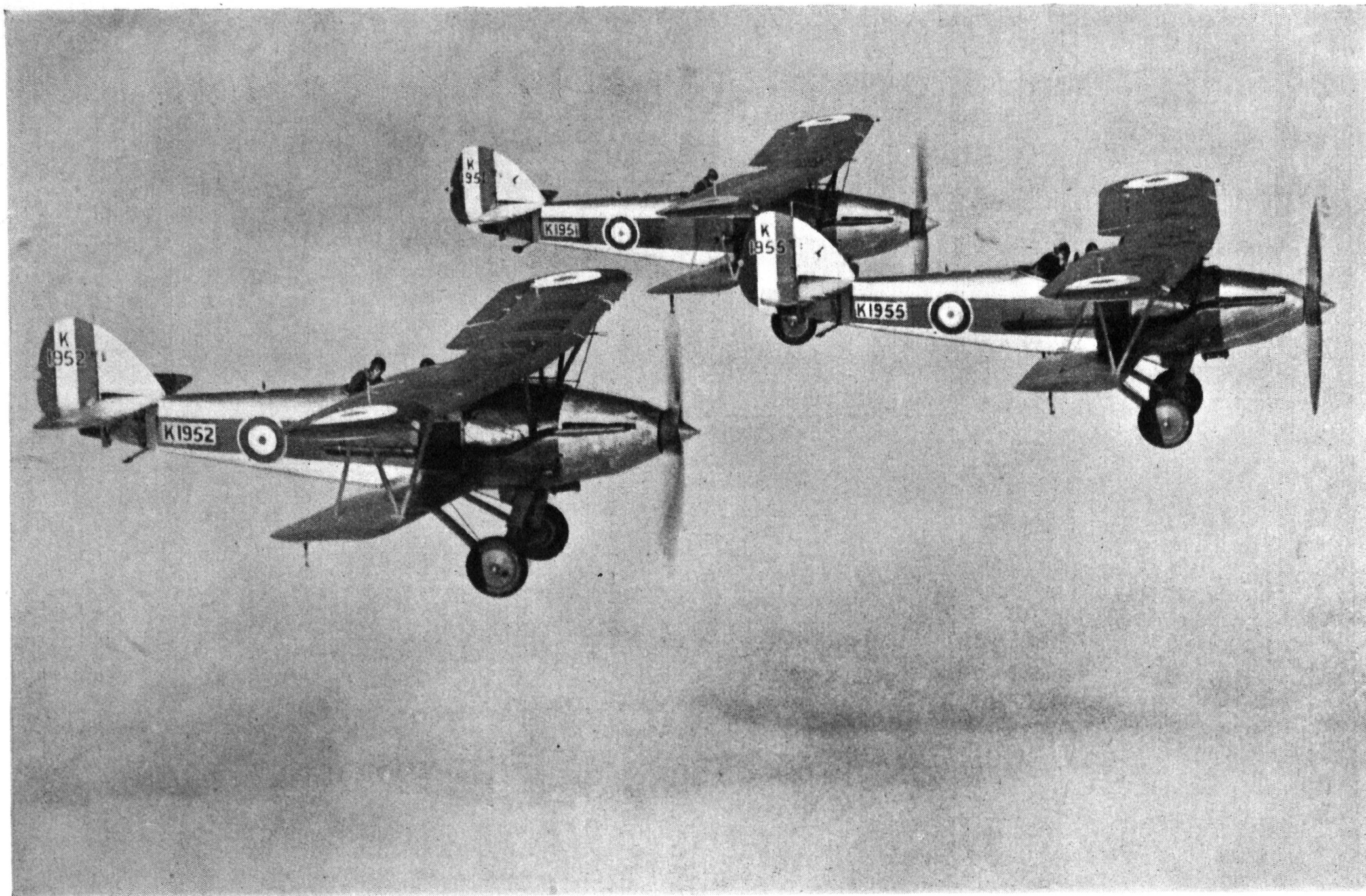
Starting from CRANWELL at 7.15 a.m. on 6th February, 1933, a FAIREY (NAPIER-ENGINED) AEROPLANE, piloted by Squadron-Leader O. R. Gayford, D.F.C., A.F.C., and Flight-Lieut. G. E. Nicholetts, A.F.C., flew non-stop to Walvis Bay in British South West Africa, a distance of 5,309 miles, in 57 hrs. 25 min.

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OUR ONLY TWO-SEATER FIGHTER SQUADRON: One Flight of No. 23 (Fighter) Squadron in Hawker "Demons" (Rolls-Royce "Kestrel").

(*"Flight" Photo.*)

(Advt.)

Airisms from the Four Winds

The Round-the-World Flight

MR. C. T. ULM, who left Sydney on June 24 in an attempt to beat the Australia-England record and then proceed via New York and the Pacific back to Australia, has met with some bad luck. After reaching Rangoon on June 26 he made Calcutta the following day and arrived at Karachi on June 28, two hours behind Mr. Mollison's record time. He left Karachi early on June 29 for Cairo, but he was forced down at Jask by a broken piston. This was repaired, and on July 4 he proceeded to Basra, but all hope of beating the record was now out of the question. Mr. Ulm's companions are Mr. G. P. Taylor and Mr. G. L. Allan, the machine, *Faith in Australia*, being, we understand, the Avro 10 Fokker-type monoplane, originally *Southern Moon*, of Australian National Airways; we also believe that three Wright J.6 engines have been fitted.

The Mollisons' Flight

MR. AND MRS. MOLLISON are to make a second attempt to start their record breaking flight during the next few days, but this time the attempt will be made from Pendine Sands. On Monday, July 3, the Mollisons flew their de Havilland "Dragon" from Stag Lane Aerodrome to Pendine Sands, and, as soon as the weather conditions are favourable, intend to take off for the first part of their flight across the Atlantic to New York. The Mollisons' machine has been described in previous issues of FLIGHT, as also have details of their flight.

Mrs. Bonney's Return Flight

MRS. H. BONNEY, a cousin of the late Sqd. Ldr. Hinkler, who has recently flown from Australia to England, hopes shortly to start on a return flight, improving considerably on her former time.

Spanish Airmen Crash

REFERENCE was made in last week's issue of FLIGHT to the crash of two Spanish airmen, Barberan and Collart, in Mexico. It now appears that the report of their death has not been authenticated, but was brought in by an employee of an oil company who invented it out of hope for pecuniary gain.

Death of Long-Distance Pilot

MR. RUSSELL BOARDMAN, who, with Mr. John Polando, flew from New York to Constantinople last July, thereby setting up a new long-distance record, died at Indianapolis on Monday, July 3. He had been badly injured when his machine crashed while taking off on the second lap of an air race from New York to Los Angeles. Mr. Boardman was president of the Boston Aviation Company and proprietor of the Hyannis airport at Cape Cod.

The Silver Lining

In all criticism levelled at the Air Ministry we have always held the view that it was the system which was at fault and not the individuals concerned. That we are justified is proven by several appreciations of Air Ministry helpfulness which have been expressed to us by manufacturers. Among the more recent may be quoted those of General Aircraft, Ltd., and Phillips & Powis Aircraft (Reading), Ltd. The first of these companies would have had the greatest difficulty in getting their latest model, with retractable undercarriage, ready for the S.B.A.C. Display at Hendon on June 26 had it not been for the wholehearted co-operation of the Air Ministry officials; particularly those of R.D.A.6, C.A.2, A.I.D. at Croydon and Farnborough. The second company have had to work almost all night as well as day for some time past in order to get their Miles "Hawk" ("Cirrus III") ready for the King's Cup Race. Farnborough, the A.I.D. and Martlesham all belied the reputation which some people would give them, the latter even sending their report of acceptance by wireless, and this was accepted by the C.A.2 department in the Air Ministry for the issue of the C. of A.

Air Marshal's New Title

MANY people, and especially those rendering introductions, have been, and are, embarrassed, perhaps even slightly mystified, by the longevity of the titles of senior Air Force officers. In connection with this there is an amusing story being told about Air Marshal Sir Robert

Brooke-Popham. When calling at a house recently he gave his name to the little maid who answered the door. She, being unable to consume such a mouthful in one gulp, requested him to say it again. The Air Marshal obligingly repeated his rank, title and name. The little maid then preceded the visitor into the house, and, no doubt to the amusement of Sir Robert, and the embarrassment of his hostess, announced the Air Officer Commanding, Air Defence of Great Britain, as "Air Poppum."

Roumanian Prince's Tour

PRINCE NICHOLAS OF ROUMANIA, accompanied by Capt. Opris, left Le Bourget on June 21 on his S.E.T. biplane (230-h.p. Salmson) on an aerial tour of Europe, and arrived back at Le Bourget on June 29.

"Ladybirds, Ladybirds, etc."

A CONTINGENT of 100 "ladybirds" have lately been rushed to Nairobi to assist in a war being waged against insects. The ladybirds were loaded at Pretoria and landed at Moshi 48 hr. later; they travelled comfortably in cotton-wool inside cardboard boxes. On reaching Moshi these ladybirds fed well and wisely, on local insects generously provided by local entomologists.

Wing Com. Orlebar's Appointment

WING COM. A. H. ORLEBAR, A.F.C., is shortly to leave England for Aden, where he will take up the appointment of Senior Air Staff Officer in place of Sqd. Ldr. A. P. M. Sanders. The fact that a Wing Com. is taking the place of a Sqd. Ldr. indicates that the Command of Aden is being up-graded.

A New Light Plane Record

A WORLD'S speed record for light aeroplanes, 3rd category, over the 100-km. course (and also over 500 km.) was established by Italy on June 17 by Maj. G. Bedendo and G. B. Ludovisi (passenger) on a Nuvoli N.5 monoplane (75-h.p. Pobjoy). The speed over the 100 km. was 196.936 k.p.h. (121.5 m.p.h.), and over the 500 km. 189.573 k.p.h. (117 m.p.h.). The previous record was established by G. Drzewiecki and G. Wedrychowski in August, 1931, with a speed of 178.748 k.p.h. (111.04 m.p.h.). The N.5 (an illustration of which was published in our issue of March 30 last) is a low-wing cantilever monoplane with semi-thick wing section; wings and tail surface of wood construction, with most of the covering of 3-ply. The fuselage is of welded-steel tubing with fabric covering. The weight of the machine empty is 250 kg. (552 lb.), the useful load being the same. It has a speed range of 75-190 k.p.h. (49.5-118.06 m.p.h.), and climbs to 3,000 m. in 16 min.

The Parliamentary Air Committee

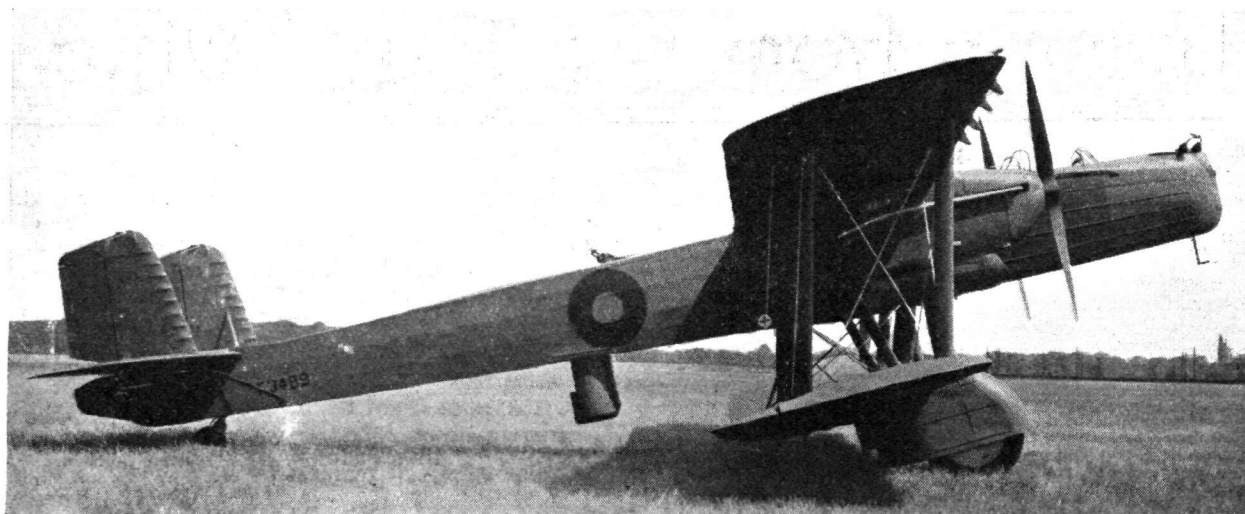
A WELL-ATTENDED meeting of the Air Committee was held at the House of Commons on June 19, when the following resolution was unanimously adopted, with the request that it be conveyed to the Prime Minister:—

"That this Air Committee supports His Majesty's Government in urging at Geneva the retention of air bombing for police purposes to carry out our Empire and mandatory obligations, believing that this use of the air arm in the territory for which His Majesty's Government is responsible is not only an unusually effective deterrent but also the most expeditious, economical and humane method of maintaining law and order therein."

On Monday, June 26, some thirty Members of the Committee were present at Hendon as the guests of the S.B.A.C. On Wednesday, June 28, a measure of some considerable importance to air interests came before the House of Commons in the form of the Essex County Council Bill. This measure included a clause which would have given to the County Council power to license or prohibit sky-writing, and was unique in that it would have conferred upon a local authority power to interfere with flying. A number of Members of the Air Committee spoke in favour of the deletion of the pertinent clause, and on a division—121 to 72—the clause was ordered to be struck out of the Bill.

Everest Plane on View

THE Houston-Westland Everest aeroplane and equipment is on view in the new Duke Street extension of Selfridges, Oxford Street.



THE HANDLEY PAGE "HEYFORD"

2 Rolls-Royce "Kestrel" Engines

SINCE the original Handley Page H.P.38 was designed, built and flown, there has been a change in load factors, etc., and the new "Heyford" night bomber, which is in effect the production version of the H.P.38, therefore differs considerably in some respects from the prototype; so much so that it has been given a new works series number, and is identified as the H.P.50. Before the construction of the "Heyfords" ordered by the Air Ministry was undertaken, the Handley Page works at Cricklewood were thoroughly overhauled and re-equipped with new and improved machinery. Very extensive use has been made of jigs, and the result of all these improvements, which one suspects to be largely due to Mr. Hamilton, who joined the firm as works manager about the time when the work on the "Heyfords" was begun, is at once evident in the form of vastly improved workmanship and finish. An interesting article could be written on the workshop methods used in producing the "Heyfords," but that would be outside the scope of these notes, which are intended to deal with the finished machine rather than with the methods by which it has been produced. As it is, we have not the space this week to describe the "Heyford" completely, and we have, therefore, decided to divide the article into two instalments, the first, which follows, dealing with the structural aspects of the "Heyford," and the second, which we hope to publish later, to describe the finished machine, its lay-out and general equipment.

In the notes which follow it is advisable to bear in mind that the "Heyford" is an unorthodox aeroplane in the arrangement of its large components. The fuselage and two engine nacelles are placed immediately under the upper plane, while the lower centre section is uninter-

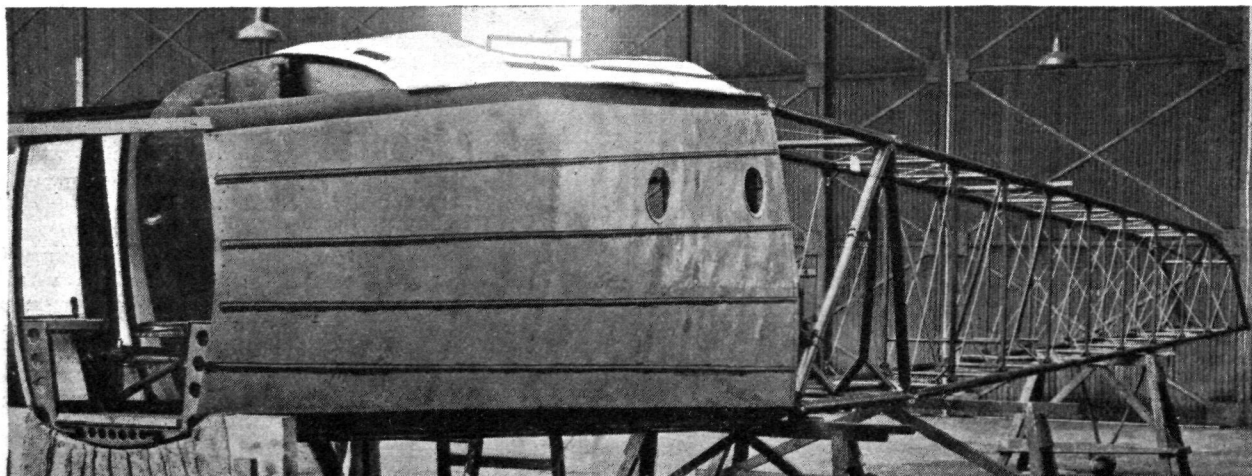
rupted by any such large bodies, and is, in fact, used as a receptacle for the bombs. This arrangement has introduced certain changes in structural policy.

The Fuselage

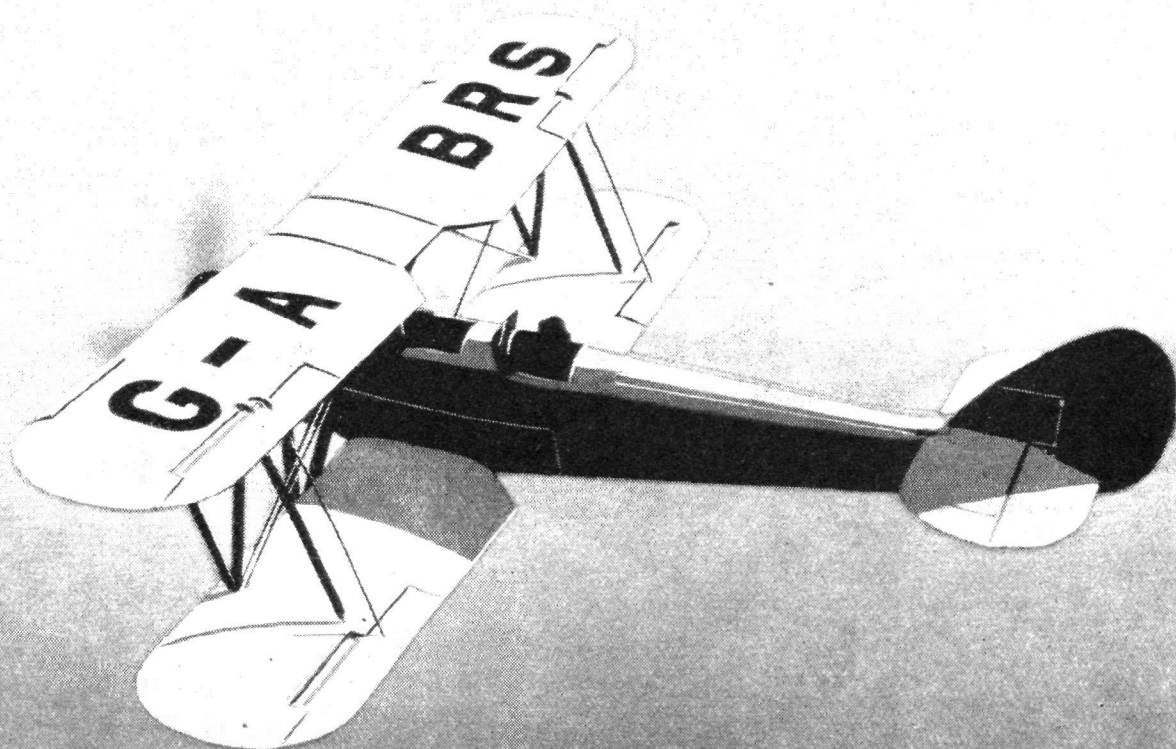
Structurally speaking, the fuselage is built in four separate sections joined together by bolted joints. Beginning at the nose, there is a forward portion which is of metal *monocoque* construction. Then follows a single-bay portion, with very stout diagonal strut bracing in the side panels, which is in line with the wings. Aft of that is the main rear fuselage portion, with vertical and horizontal struts and tie rod cross bracing. Finally, the fuselage terminates at the stern in a small unit which carries the tail and casting tail wheel.

The front, *monocoque*, portion of the fuselage is of very neat and simple construction. It carries no very heavy weights (crew and their equipment only) and therefore a heavy primary structure has not been necessary. The longerons are built up of an outer curved corner strip and an inner strip of "Omega" section. In the forward half of the *monocoque* the lower longeron "omegas" are fairly shallow, while in the rear half they are deeper, to meet conveniently the tubular longeron of the rear fuselage portion. The "omegas" of the top longerons are shallow and of uniform depth throughout.

Top and bottom longerons are connected by vertical formers of small, light-gauge strip of "omega" section. Like the longeron strips they are of Duralumin. The covering is "Alclad," riveted on in fairly large panels. The skin is reinforced by *external* stringers of shallow channel section, and the side of the rear half of the *monocoque* is reinforced by an internal diagonal member



THE FUSELAGE: The front portion is a metal monocoque structure, while the rear is a steel tube wire-braced girder. (FLIGHT Photo.)



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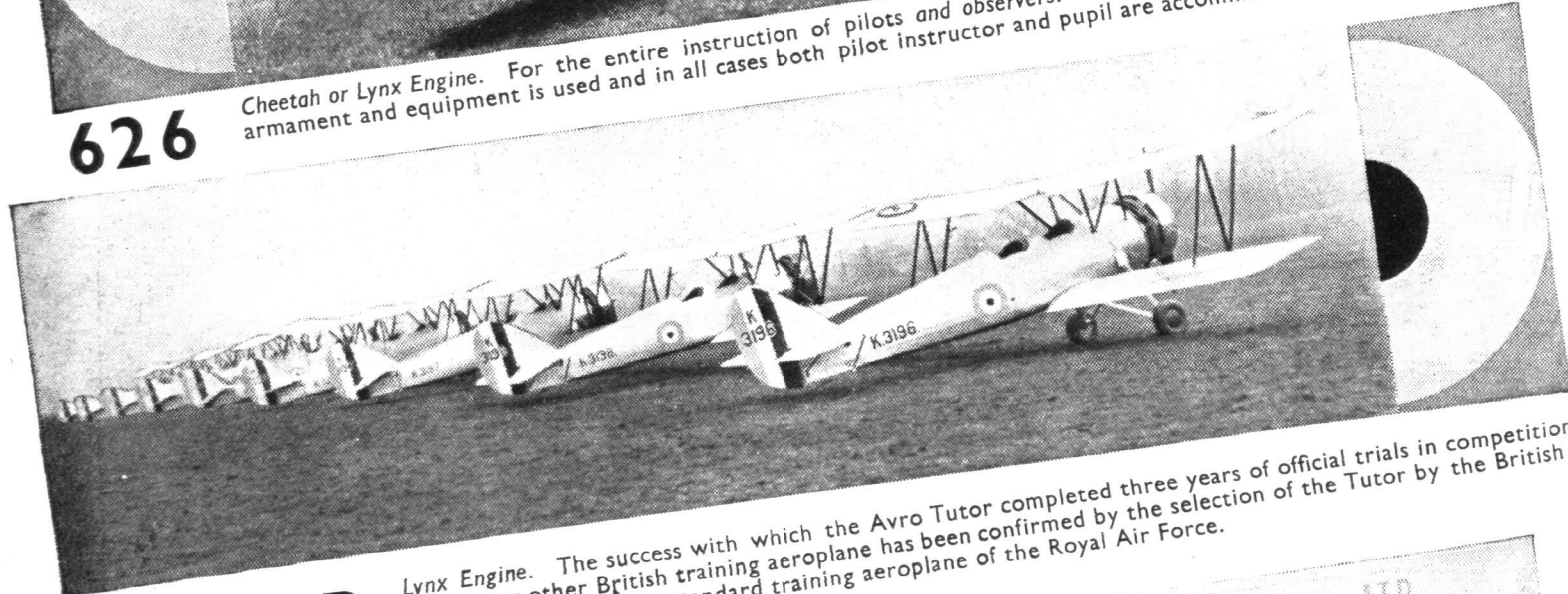
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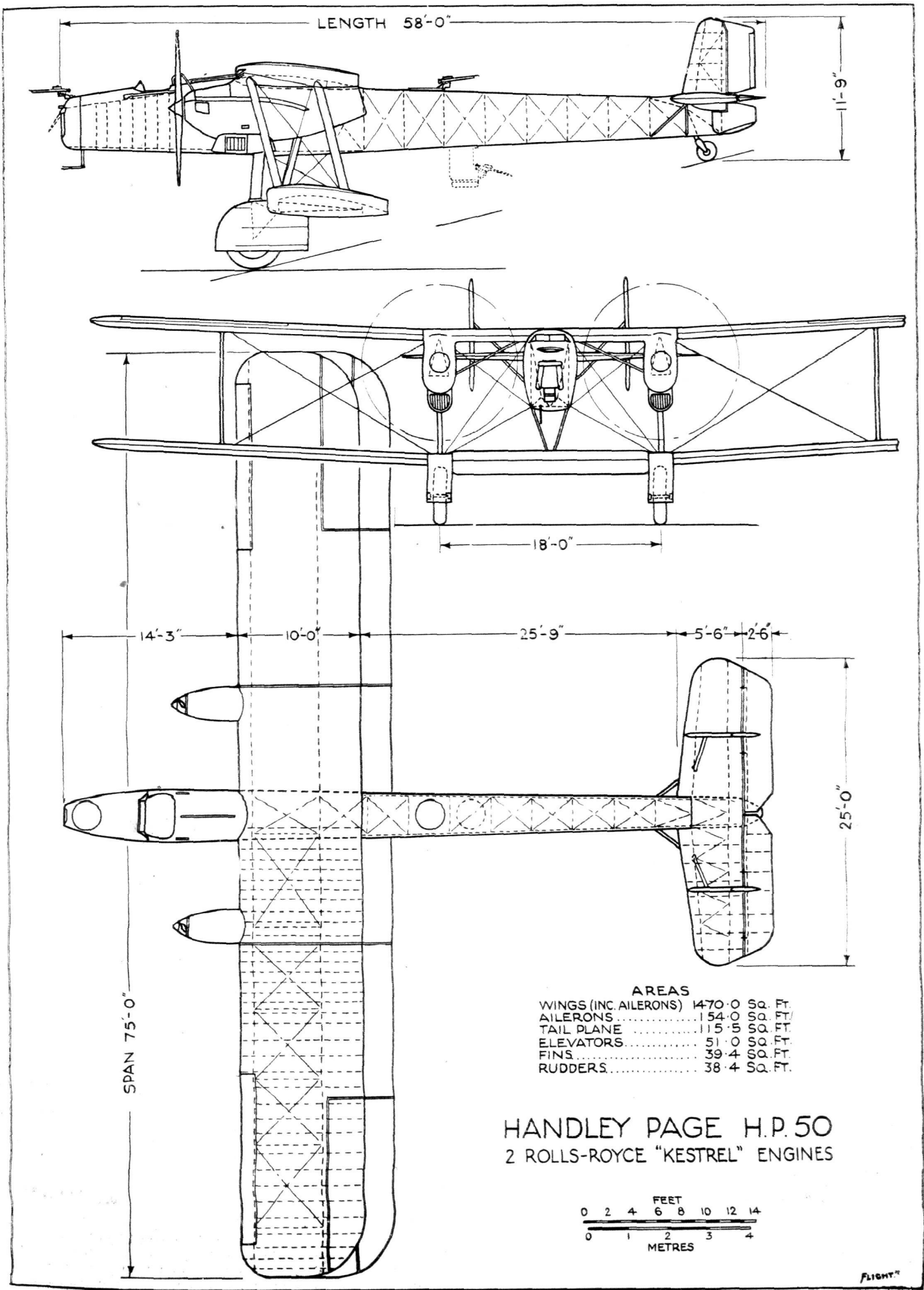
The present series of Avro training aircraft, each of which is available also as a seaplane, constitutes the most complete range ever produced by one factory—a factory possessing, moreover, sixteen years' uninterrupted experience of training requirements.



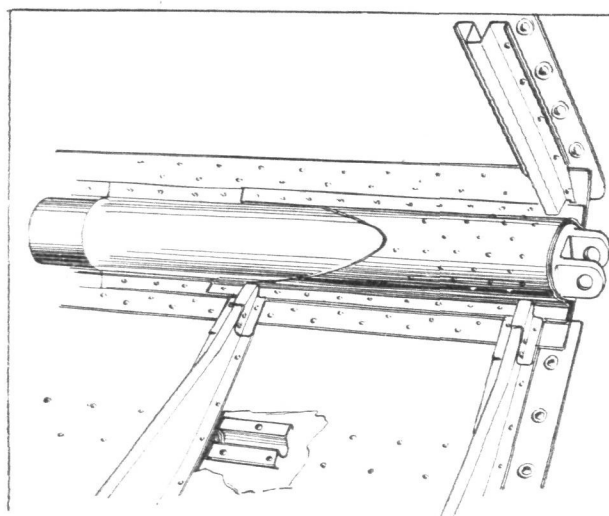
Cables: Triplane, Manchester.

A. V. ROE & CO., LTD., Newton Heath, MANCHESTER.

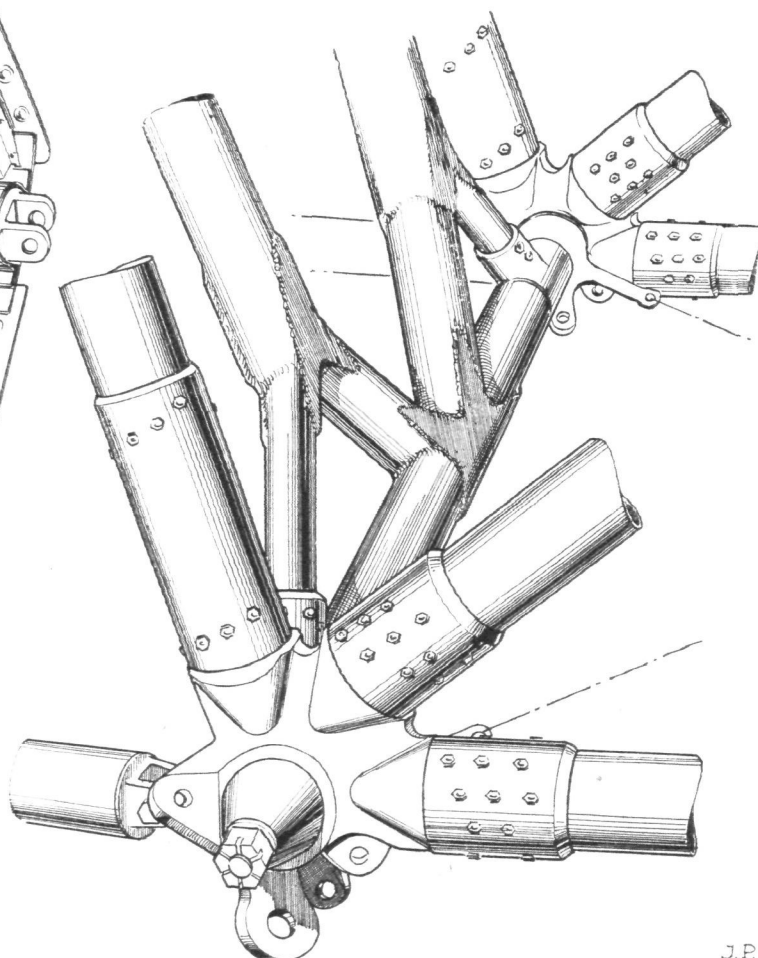




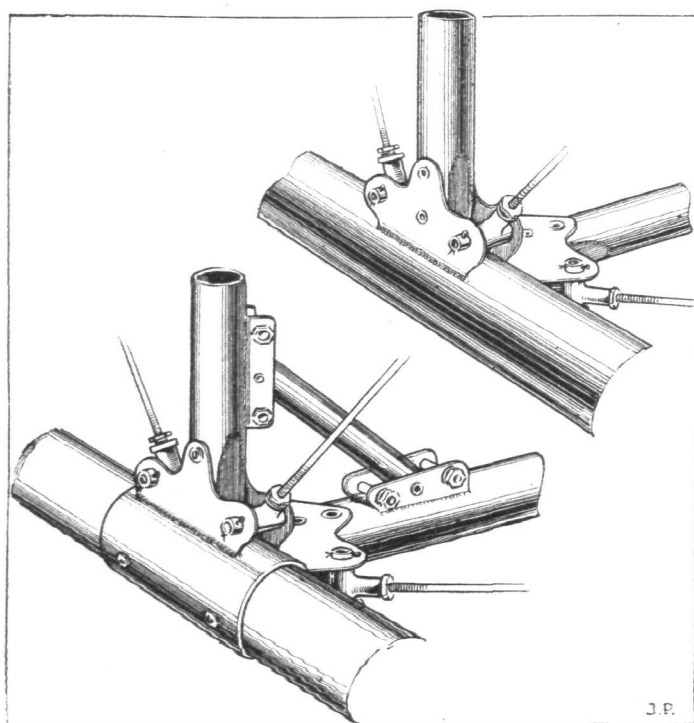
THE HANDLEY PAGE "HEYFORD" : General arrangement drawings.



FUSELAGE DETAILS: Above, built-up longeron, metal skin and channel formers of the monocoque portion. On the right, joints in the single-bay portion in way of the wings. Several sleeve joints are shown. The transverse bracing is arranged to provide a doorway to the rear gunner's cockpit. Below, typical joints in the rear fuselage portion. (FLIGHT Sketches.)



J.P.



J.P.

riveted to the skin and to the vertical formers. The deck and bottom of the *monocoque* are of a construction similar to that of the sides.

Two half-bulkheads divide the *monocoque* into three compartments. The bulkheads are composed of vertical channels from floor to roof, double walls attached to the side skin by L-section strips, and internal channel stiffeners. The front bulkhead, which forms the forward wall of the pilot's cockpit, has a two-fold door which, when closed, keeps the draught from the forward gunner's cockpit from entering the pilot's compartment.

Aft of the *monocoque* is the single-bay fuselage portion which carries the wings. This has steel tubular longerons and diagonal struts in the side panels, while the top

horizontal panel is braced by swaged rods and the floor panel by streamline wires.

The rear fuselage main portion, which is really typical of the general construction, has steel tube longerons and struts, with tie rod cross bracing. The joints combine welding, bolting and riveting in a somewhat unusual manner. Welding is used solely as a means of locating the strut fittings on the longerons. Two flat plates have their edges welded to the longeron, or to a sleeve over the longeron, and between the free edges of these plates are inserted the strut ends, secured to the plates by tubular rivets.

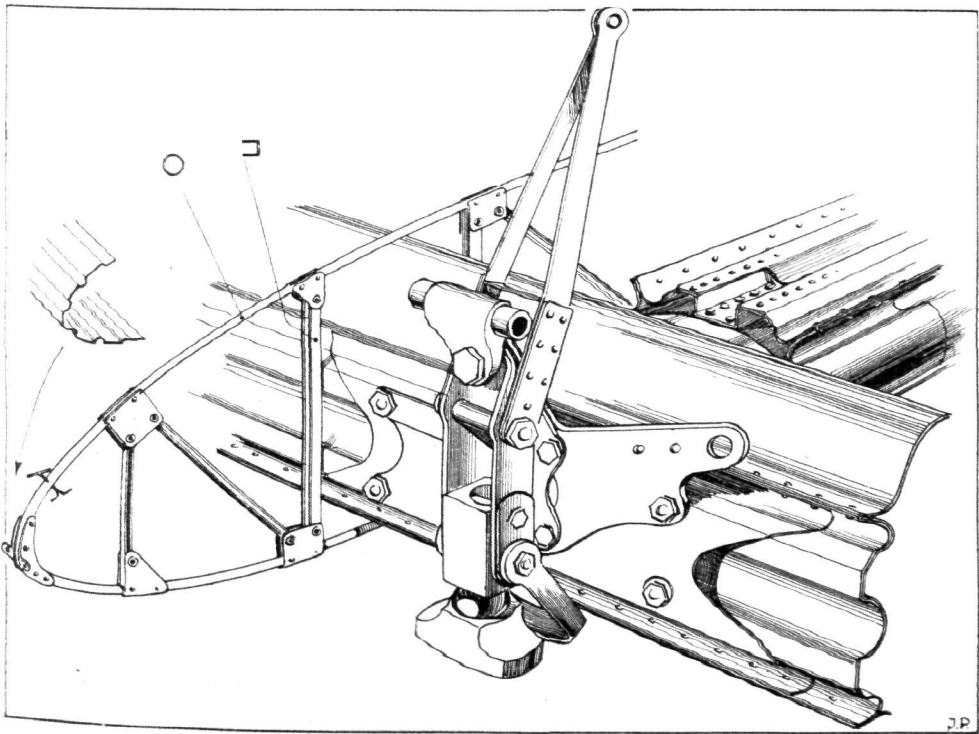
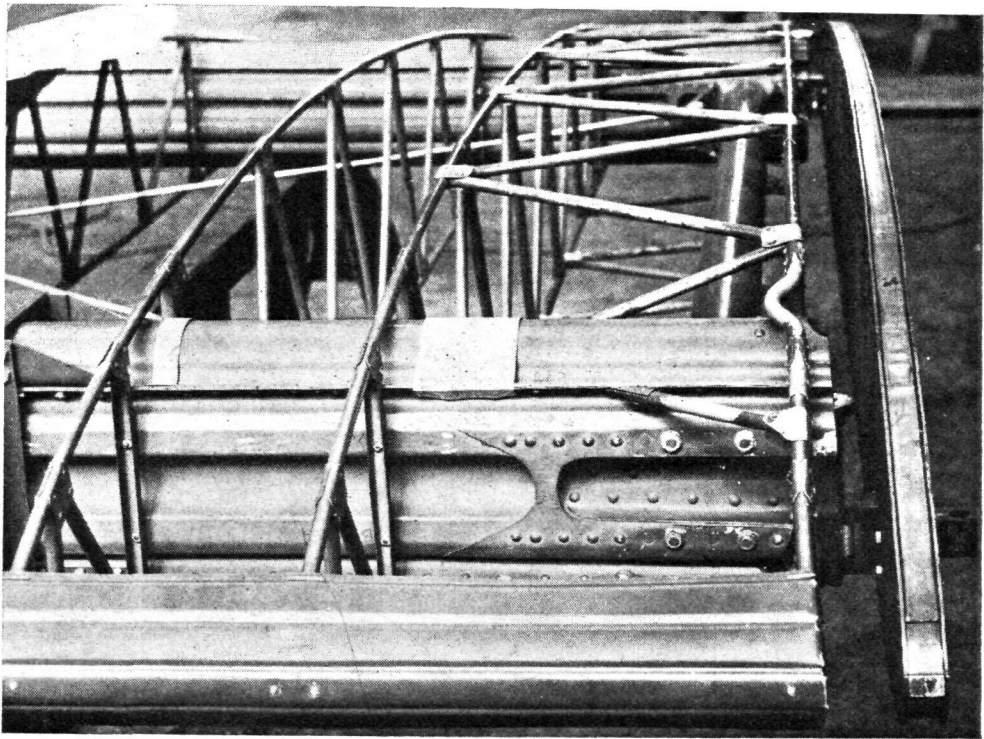
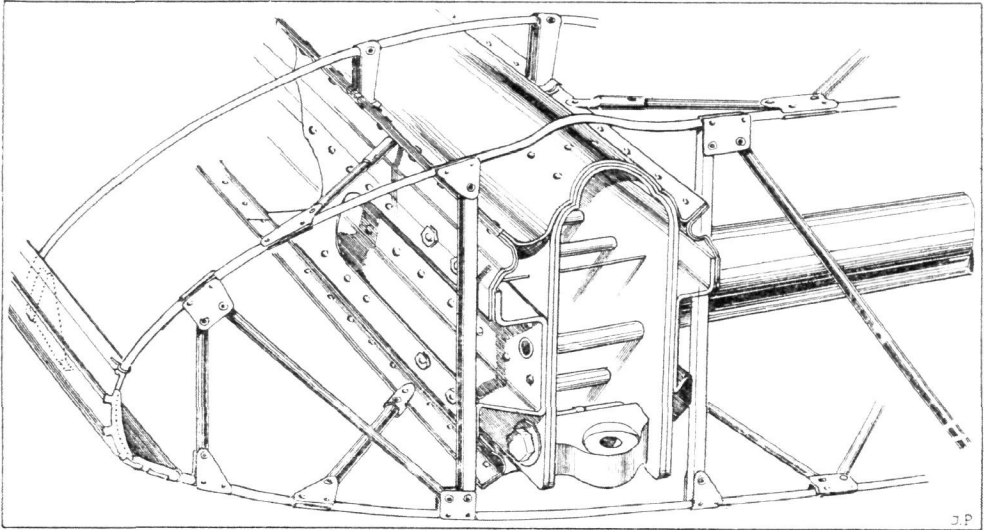
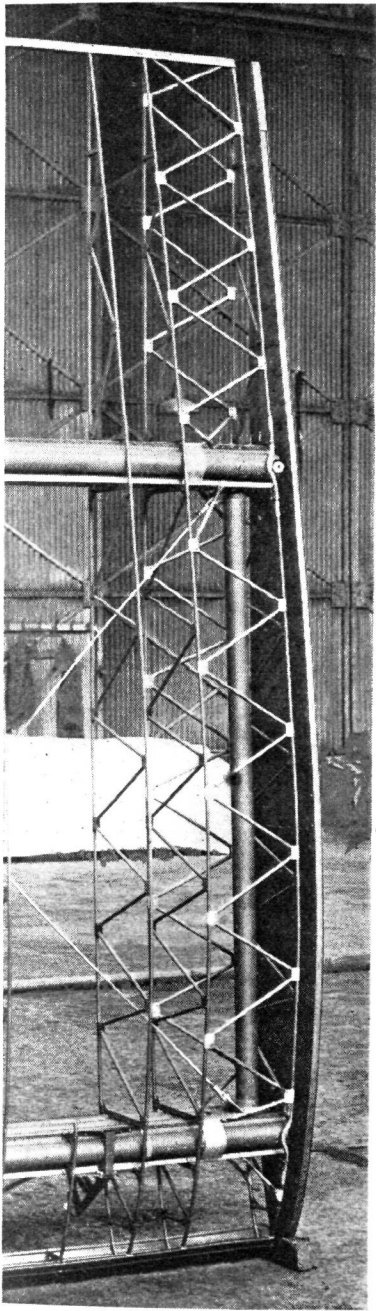
Extensive use is made of sleeve joints for struts and longerons. The ends of struts or longerons are inserted in the sleeve, at the other end of which may be another tube or a fitting. In either case the attachment is by thin studs through tube and sleeve, a large number of studs being used, radially disposed to clear each other. If a damaged strut or longeron is to be replaced, all that has to be done is to undo the nuts of these "spoke studs," when the sleeve can be slid along and the tube removed from the structure.

The Wings

Owing to the unusual arrangement of the fuselage, engines and bombs, the wing structure of the "Heyford" shows local variations in the type of structure used. The top centre section, upper and lower end portions, are, generally speaking, of one type, while the bottom centre section is of quite different construction owing to the need for accommodating the bomb load.

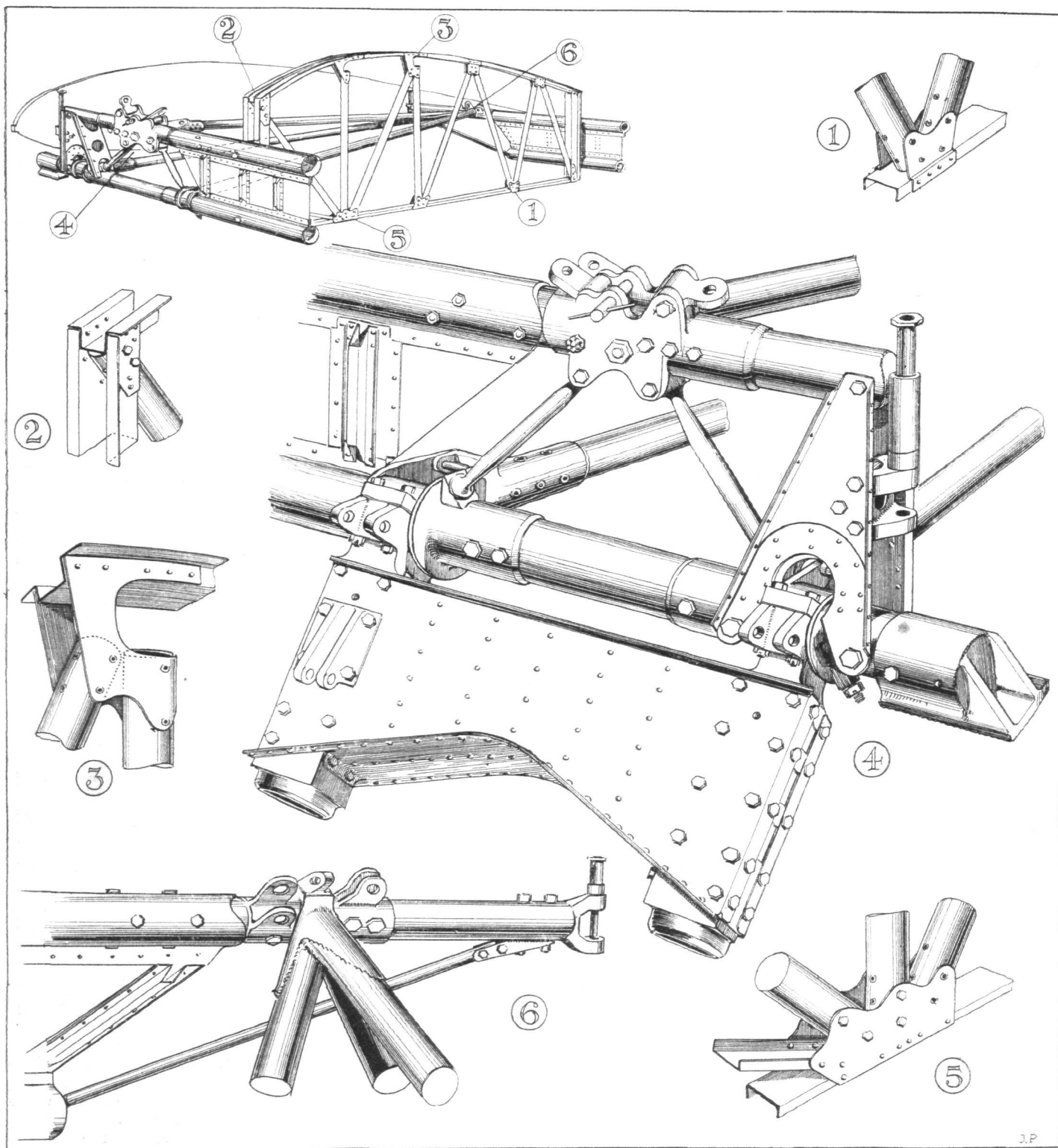
Duralumin is the material used in the main wing spars and ribs. The spars are of built-up box section, as shown in our sketches. The ribs are of tubular construction, joints being made by flat plates and tubular rivets. The compression or drag struts are of a section similar to that of the spars, but of slightly smaller overall dimensions.

In the bottom centre section the spars have bulb-section booms joined by a single thin flat web, reinforced by channel-section stiffeners on front and back. Both booms of the front spar, and the upper boom of the rear spar, are of heavy gauge, and are formed on the draw-bench. The bottom boom on the rear spar is of much lighter gauge, and has its free edges curved for stiffness.



WING CONSTRUCTION : The two photographs above show the general wing construction, while the sketch at the top of the page illustrates some of the details thereof. They relate to a star-board lower plane. (FLIGHT Photos and Sketch.)

LEFT : Details of an outer lower wing, with interplane strut fitting, and support for lifting jack. The internal drag bracing strut is of the same section as that of the main spars, but of slightly smaller dimensions. (FLIGHT Sketch.)



LOWER CENTRE SECTION : The construction of this differs from that employed generally in the wings. The small sketch in the upper left-hand corner shows the location of the various numbered details. (FLIGHT Sketches.)

The ribs of the lower centre section are somewhat more elaborate than those used generally in the wings. The wing section used is fairly deep, to accommodate the bombs, and the concentrated loads are, of course, very much greater. The ribs, therefore, have channel-section flanges of fairly large dimensions, and the tubes of the rib web are of much larger diameter than those of the normal ribs.

The engine mountings of the "Heyford" are steel tube structures, using partly welded joints and partly "spoke

stud" joints similar to those in the fuselage. The engine mountings are made as complete units, even including the interplane struts, and are built in elaborate jigs. The undercarriage telescopic struts are hinged to the front interplane strut inside the engine mounting. Each wheel is carried on a fork, and the single telescopic strut allows the wheel to rise and fall inside its "spat." A casting tail wheel is fitted.

(To be concluded.)

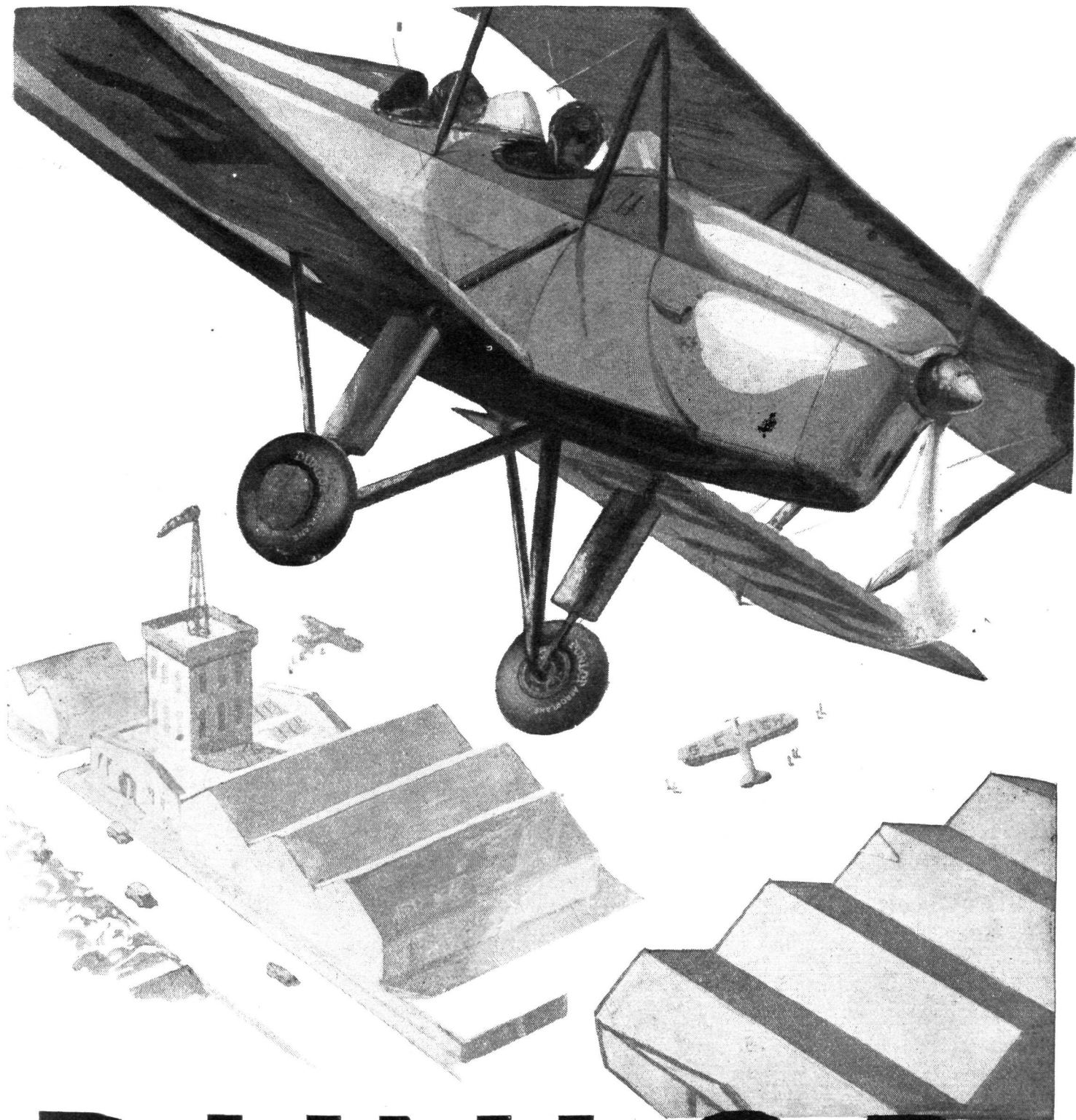


New Stratosphere Balloon

DR. MAX COSYNS AND ERNEST DEMUYTER successfully completed a flight in a new type of balloon. After being up in the air for 24 hr., they landed 150 miles south of Paris. Dr. Cosyns, who, incidentally, accompanied Prof. Piccard in his ascent last summer, expressed his satisfaction of the balloon's behaviour, and intends to make an ascent into the stratosphere at an early date.

Luncheon to Air Council

A LUNCHEON was given on Monday, July 3, by the Military, Air, and Naval Attachés to the Foreign Embassies and Legations in London, in honour of the Marquess of Londonderry, the Secretary of State for Air, and members and officers of the Air Council and Air Ministry. Col. Mossberg, of Sweden, presided over the gathering, which took place in the Carlton Hotel.



DUNLOP

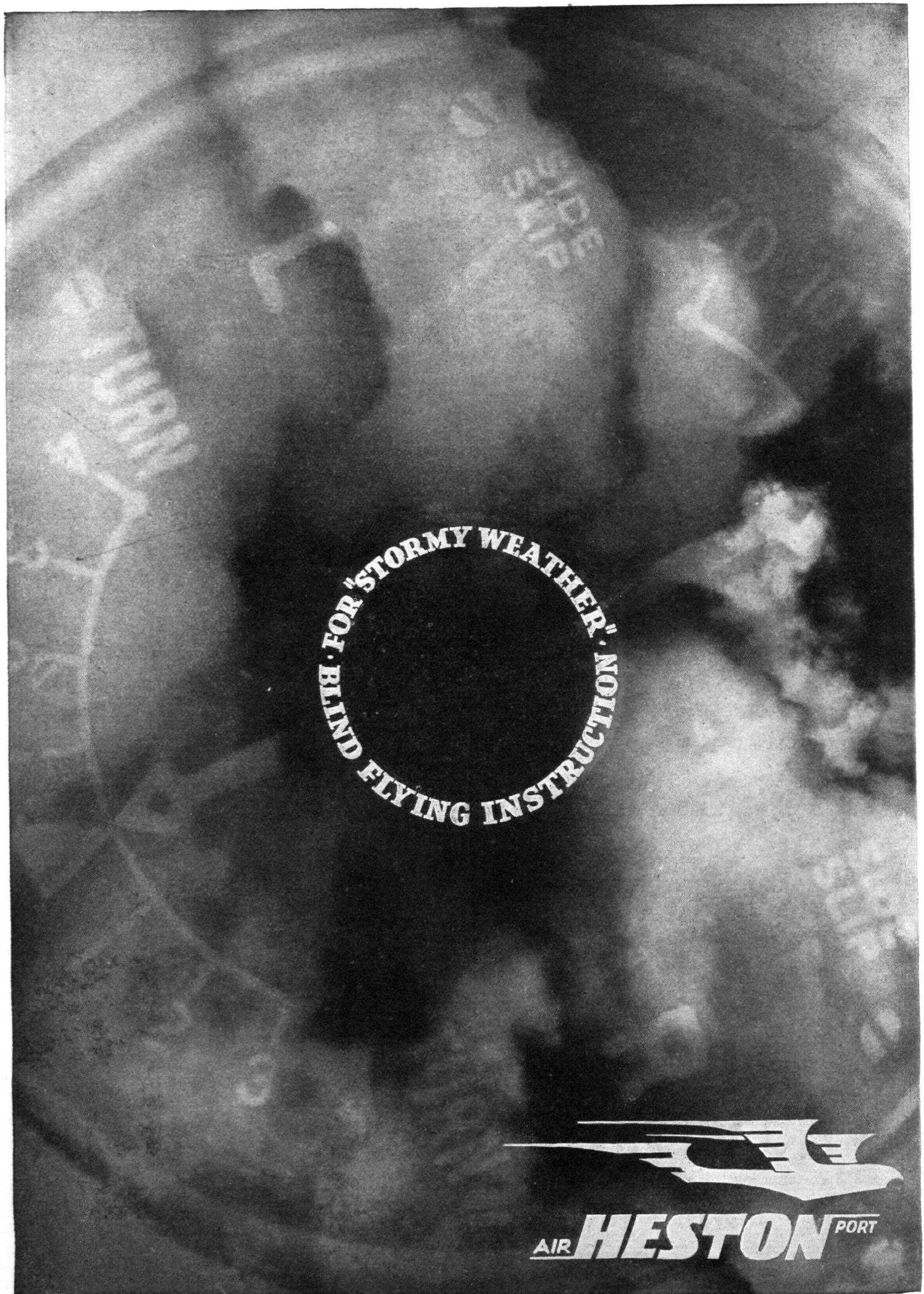
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Air Transport

THE LOCKHEED "ELECTRA"

A SHORT while back the Lockheed factory decided to discontinue building a large, single-motored, all-metal monoplane then in hand, and concentrate on a small, twin-engined machine. The result is the "Electra." This is a low-wing monoplane designed to combine speed and comfort with low cost and maintenance. It is all metal, the wings being of semi-stress skin type construction, readily accessible and repairable. For the structural parts 24 ST is used throughout, the covering being 24 ST Alclad. Detachable wing panels facilitating inspection and maintenance.

The cabin measures 4 ft. 10 in. wide, 5 ft. high, and 15 ft. long; it is well ventilated, comfortable, and soundproof. Excellent vision is possible from the pilot's cockpit, which is situated forward. Conventional wheel controls are used, and complete instrument equipment, including Sperry Directional Gyro and Sperry Artificial Horizon, are fitted. The engines, in streamlined nacelles, are built into the wings close to the fuselage. The fuel tanks, of 100 gallons capacity each, are built into the entering edge of the wing stub between the engines and the fuselage.

Simple wing flaps are incorporated which reduce take-off and landing speed. Horizontal and directional balance is accomplished with adjustable flaps at the trailing edge of the rudder and elevator. A retractable landing gear is operated electrically and has an auxiliary emergency hand-operated system. The wheels swing directly back into the rear of the nacelle and are completely faired in when in the retracted position. The retraction system used



Some idea of the Lockheed "Electra" is provided by this photo of a model.

permits a variable fore and aft location of the wheels in extended position, so that the machine may more suitably be balanced on the ground with variable loading conditions. Goodyear air wheels are used with Goodyear hydraulic brakes controlled by a hand lever conveniently located and differentially connected to the rudder pedals.

It is claimed that this machine will cruise at 180 m.p.h. with 2,200 lb. of payload. The two engines develop together 840 h.p.

SOUTH AFRICAN AIR DEVELOPMENTS

FROM July 1, Union Airways was scheduled to operate a daily service of eight-seater Junkers monoplanes between Durban and Johannesburg. At present this company has six-seater Junkers machines leaving Durban and Johannesburg on alternate days, giving a tri-weekly service, while another company, Arrow Air Lines, has a "Waco" operating on the days when no Union Airways' aeroplanes leave.

The Union Government has extended the mail-carrying contract, and, when the enlarged service begins, letters will leave Durban and Johannesburg every day and be delivered within four hours. Not only will this be a valuable link between Durban and the Rand, but also between Durban and other parts of Southern Africa beyond Johannesburg, such as Bulawayo and Salisbury, and invaluable to the business communities of the larger centres.

Two new eight-seater Junkers recently left Europe for Africa, piloted by Maj. A. Miller, Joint Managing Director of the Company, and Capt. Fry. These machines are equipped with 550-h.p. "Hornet" engines, are designed for complete blind flying, and will carry wireless operators. Arrangements have been made for the aeroplane from Johannesburg on Saturdays to leave at 8 o'clock instead of

10, so that mail matter and passengers from London and intermediate landing places bound for Durban will be able to reach here before 11 o'clock. In this way Durban will receive its overseas mail exactly ten days after it leaves London, and, for the first time in history, before Capetown receives hers. On Tuesday mornings the machine from Durban will also leave two hours earlier to save delay in the transposition of mails and passengers from Union Airways' aeroplane, which arrives from Capetown with letters sent by mail boat.

From a local point of view the most important news of late is the intimation that Union Airways intend transferring its headquarters from Port Elizabeth to Durban. Apart from other advantages inherent in the centralisation of the company's services here, approximately £1,500 will be circulated monthly in the wages of the staff.

Mr. P. L. Lindup, Secretary to the Civil Air Board, has written to the Town Clerk of Durban saying that as Durban will become an important terminal aerodrome, it is felt that it would be a convenient and desirable arrangement if Union Airways could become the licensees of the aerodrome.

A. I. F.

England—Calcutta Air Route Opened

THE Postmaster-General announces that, commencing with the mail leaving London on July 1, the England-India air mail service has been extended from Karachi to Calcutta, via Jodhpur, Delhi, Cawnpore, Allahabad and Asansol. The postage rates for air mail correspondence intended for transmission by air beyond Karachi are:—Letters, first half ounce, 8d.; each additional half ounce,

7d.; Postcards, 4d. These are the same as for correspondence intended for transmission by the existing air services to Delhi and Madras. Correspondence prepaid at these rates should be marked in the top left-hand corner "By air in India." It will be due to reach Calcutta on Saturday, seven days after despatch from London. The new service will also offer advantage for Burma; the mail will be due at Rangoon on Tuesday, ten days after despatch

from London, three days in advance of correspondence prepaid for transmission by air to Karachi only. The return service will leave Calcutta on Tuesdays and will be due to reach London the following Monday.

An Amphibian Service in India?

It is reported that Tata Air Lines, which company operates the Karachi-Bombay-Madras mail service, propose to inaugurate an air service between Madras and Ceylon, operated with amphibian machines. This type of machine is selected, adds the report, as the result of the announcement of the Ceylon Government that, while they generally favour the project, they have made it clear that they are not prepared to spend money on the preparation of a suitable landing ground. Amphibians could, of course, take off from and land on the Madras aerodrome, and at the same time alight on and take off from the water at Colombo Harbour. Several points still remain to be settled. Tatas, it is stated, are asking for a remission of the duty on petrol and oil used in the service and for free telegraph facilities for reporting the movements of aircraft, the exemption of import duties on aircraft material and spares and the exemption from harbour dues in the event of forced landings along the coast. The Ceylon Government have been requested to arrange mooring facilities and harbour space for shelter in case of necessity to take the machine from the water for minor repairs.

Germany's High Speed Services

We have already referred to the speeding-up of Luft Hansa air services, mainly by the introduction of faster machines. This policy is still being pursued, and we understand that future models of the Junkers "Ju 52"—which had a top speed of 177.7 m.p.h. and a cruising speed of 159 m.p.h.—will be fitted with more powerful engines—Pratt & Whitney "Hornet B's." As a result the cruising speed of this type of machine will be increased to 163.3 m.p.h. The new international schedules of the D.L.H. will, therefore, be calculated for 1934 on an average speed of 136.7 m.p.h. instead of the 99.5 m.p.h. which is the basis of the present time-tables.

H.P. 42's Heap up Hours

Two of the Handley Page type 42 airliners, *Horatius* and *Hengist*, have completed the following flying hours since they were first put into service by Imperial Airways,

□ □ □

Pilots "B" Licences

AIR MINISTRY notice to airmen, series A, No. 34, of the year 1933, states that arrangements have been made by which pilots requiring medical re-examination for renewal of class "B" pilots' licences can, in certain cases, be re-examined at the Royal Air Force Station, Sealand, instead of at the Central Medical Establishment, London. Applicants should apply to the Secretary (C.A. 2), Air Ministry, at least 14 days before the examination at Sealand.

The First Air House

It has often been thought, in the past, by many private owners and club members, that the popularity of any well-known hotel or "road house" would be greatly enhanced by the laying down of a landing ground within a few hundred yards of its premises. Many hotel proprietors have considered the idea, but none of them has concluded that the expense entailed was worth while. The management of the "Ace of Spades," the well-known "road house" on the Kingston By-pass have, however, sufficient belief in the future of aviation to take the matter up really seriously. A landing ground, approved by the Air Ministry, has been laid down within 400 yd. of the club. This will be enlarged as soon as land is available, and already negotiations are in progress for the building of a small clubhouse and a hangar on the aerodrome. To inaugurate this landing ground a special aviation gala night was held on Friday, June 30. The Master of Sempill officially opened the new bathing pool by diving into the water clad in a bathing suit, black in colour, but not originally designed for aquatic sports. A landing competition was won by Mr. B. Thorn, and a prize for the machine bearing lucky registration letters, by Mr. M. O. L. Scott. Other events during the evening included a para-

THE "ACE OF SPADES" LANDING GROUND: This aerial view shows the location of the landing ground (at top) alongside the Kingston By-pass. The "Ace of Spades" is seen at the bottom of the picture.

Ltd. *Horatius* (since November 20, 1931), 2,035 hr.; *Hengist* (since December 15, 1931), 2,074 hr. As the cruising speed of the H.P. 42 is 105 m.p.h., this would be equivalent to 213,675 and 217,770 miles respectively.

The French Air Combine

We understand that the Compagnie Générale Aéropostale will take its place with the other air operating companies in the new combination scheme, which will definitely be established by September 1. Aéropostale services will, therefore, suffer no interruption.

The Hull-Grimsby Air Service

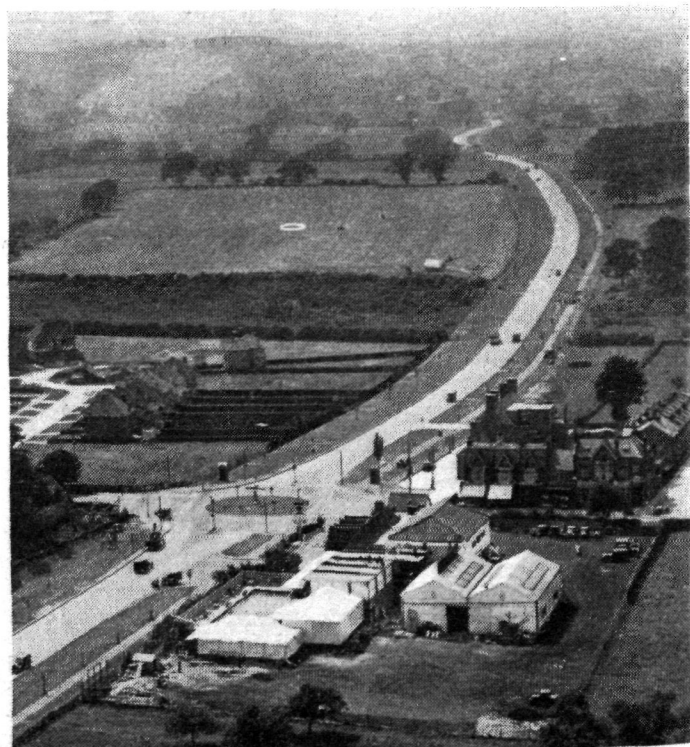
THE air ferry service between Hull and Grimsby—to which brief reference was made in our issue for June 22 last—was opened on July 1 by the North Sea Aerial & General Transport, Ltd., and East Yorkshire Motor Services, Ltd. Congratulatory telegrams and expressions of good wishes were sent to the operators by Sir Philip Sassoon, Under-Secretary for Air, the Lord Mayor and Sheriff of Hull, the Mayor of Grimsby, etc. The service is three times daily in each direction, and, in addition, special charter services are undertaken.

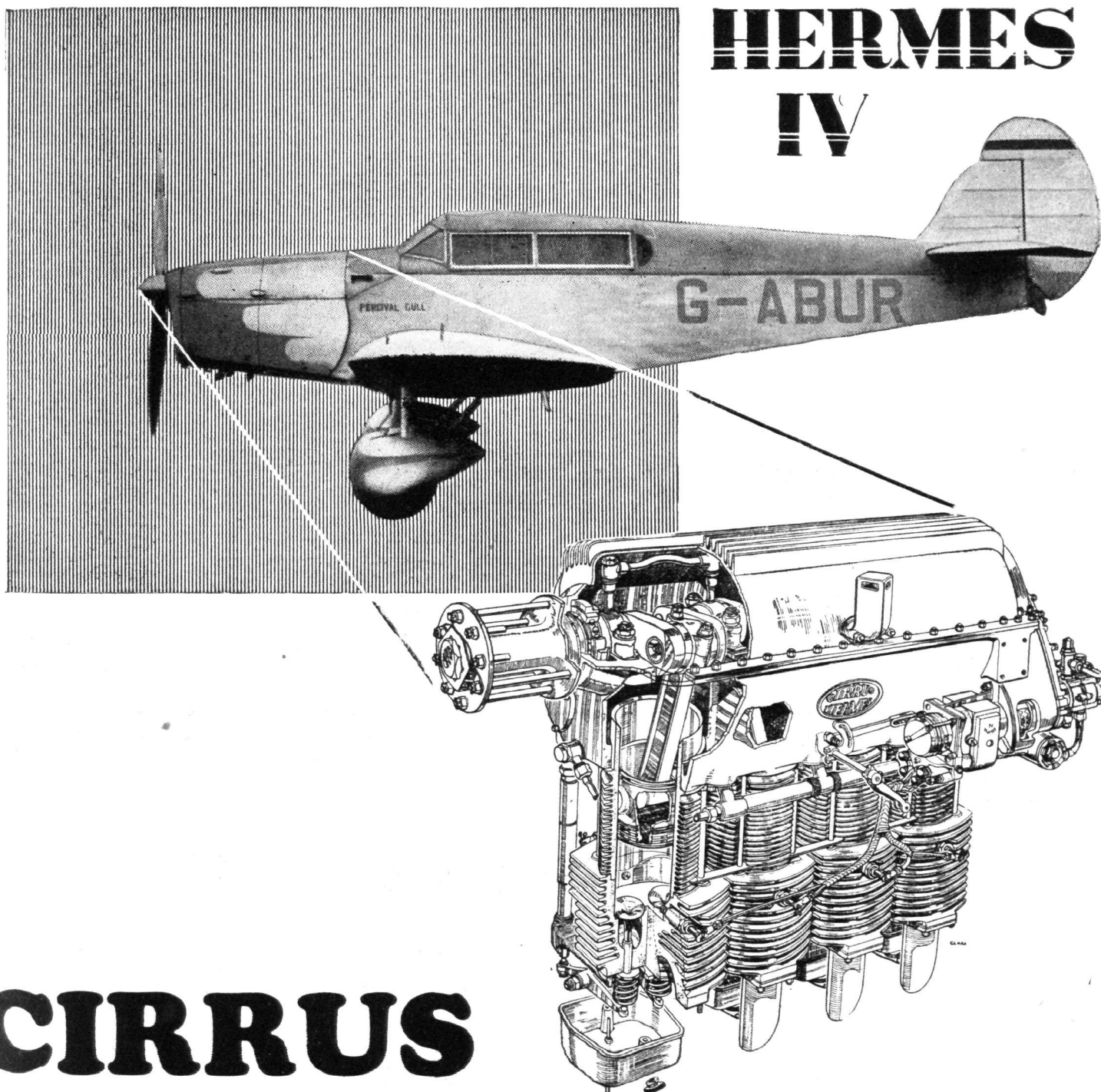
Air Union Celebration

A DINNER officially introducing the new Air Union three-engined "Golden Clipper," at present operating on the London-Paris route, and claimed to be the fastest multi-engined mail and passenger aeroplane operating in Europe, was given by the Air Union at Croydon on Saturday, July 1. During the early evening flights over South London were given to guests in a "Golden Ray" machine. At dinner, which was held in the Aerodrome Hotel, Mr. Banford, the company's London manager, announced that later in the evening the "Golden Clipper" would take off and fly with full load on one, two and three engines. A happy thought on the part of the organisers was the choice of a recent passenger as guest of the evening; he was Mr. George Smith, aged 84, and he described his enjoyment of a flight to Paris, though it appeared that the "boulevards and beautiful belles" of the French Capital impressed his memory more than the more sublime beauties of aerial travel. Dancing was carried on after dinner to the conclusion of a very successful evening.

□ □ □

chute drop with a new type parachute not yet approved by the Air Ministry; a cabaret, and piano duets by Messrs. Percy Chandler and H. Howard. A very enjoyable evening, organised by Mr. Travers Griffin, was spent by over 200 guests. Among those present were Com. Perrin, the Hon. Mrs. Victor Bruce, Mr. and Mrs. A. S. Butler, the Clerk to the Surbiton Council, Mr. Wright, and the Rev. Featherstone, Rector of Hook.





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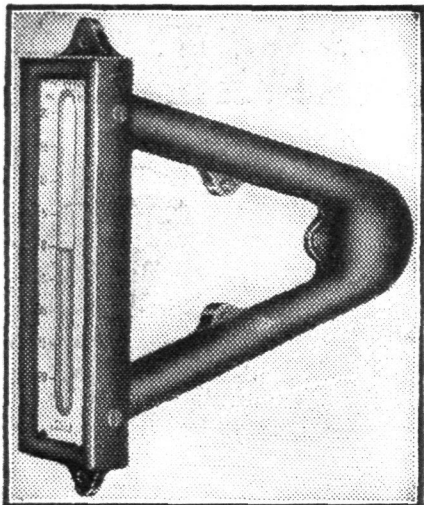
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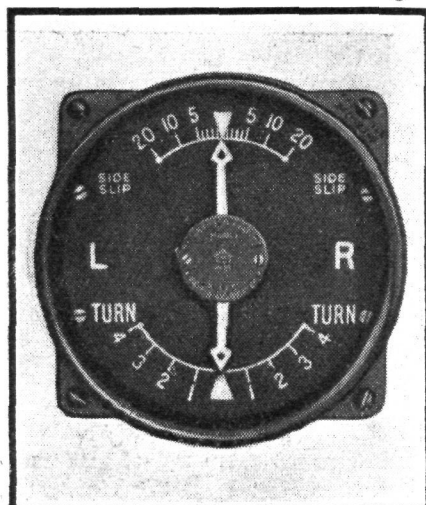
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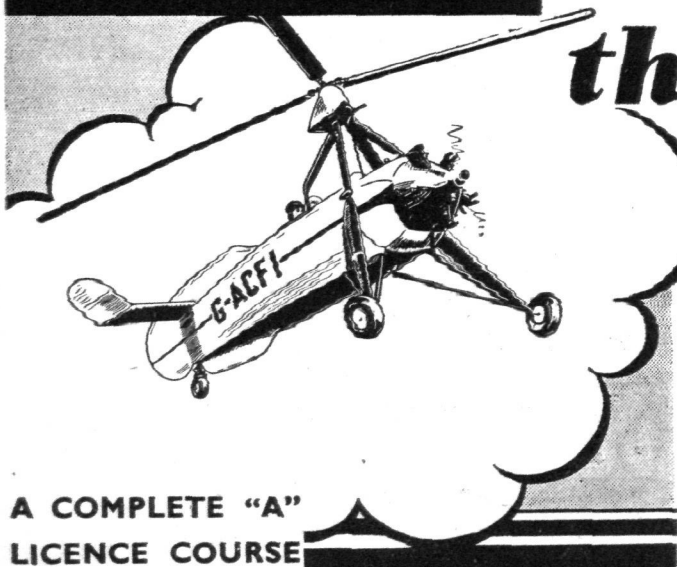


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Airport News

BRISTOL AIRPORT

WEATHER conditions throughout the month of June have been really good, except, of course, on the day of the Bristol Air Pageant. In the past week Mr. Robinson Cazalet cleared Customs for Ireland, and a Surrey Flying Services Fokker cleared inwards on the following day from the same country. On Saturday an Iona National Airways "Fox Moth" cleared for Cork with three passengers.

Norman Edgar & Co. have recently delivered five machines from their sales dépôt, including new machines to Sir Philip Sassoon, Lord Borodale and Mr. Loel Guinness. A "Bluebird" and a "Gipsy I Moth" were also delivered to purchasers in France.

The Bristol-Cardiff Air Ferry, operated by the same firm, has been doing increased business as the result of a reduction in the fares, which are now 9s. single and 18s. return. This is less than the first-class railway fare, and appears to be a step in the right direction.

During the Bristol-Brighton week a daily service was also operated between Bristol and Brighton with a Westland "Wessex." The Bristol Branch of Airwork, Ltd., has been kept so busy that an S.O.S. had to be sent to Heston for extra staff.

CROYDON

DR. SCHACHT, President of the Reichbank, and Chief German delegate to the World Economic Conference, arrived by private 'plane from Berlin at 3 p.m. Monday, June 26. As on former occasions, Dr. Schacht was afforded special police protection.

Mr. Woolsey, the well-known film comedian of Woolsey and Wheeler fame, arrived at 7.15 p.m. the same evening from Paris, and incidentally stayed at the Dorchester, the same hotel as Dr. Schacht. Mr. Colyn, the Dutch Prime Minister, arrived at Croydon at 9.20 p.m. by Royal Dutch air-liner from Amsterdam. He was returning to the World Economic Conference after a week-end holiday in Holland.

On Thursday, June 29, Dr. Schacht, who is a keen rival of Mr. Montague Norman's in the art of slipping in and out of countries totally unobserved, left Croydon very quietly at 6 a.m. in his private 'plane for Berlin.

Capt. Eden, Under-Secretary of State for Foreign Affairs, who was returning from Geneva, arrived at Croydon the same morning at 11.55 a.m. in the air-liner *Hengist* from Paris.

Col. Michailoff, of the Bulgarian Air Ministry, and his wife, who had been on a three days' visit to this country, left Croydon at 9.20 a.m. by D.L.H. for Berlin.

A record trip was set up a few days ago by the catapult 'plane which left the s.s. *Eurofa* at 2 a.m. 510 miles west of Land's End and arrived at Southampton at 10 a.m. The 'plane left almost immediately for Bremerhaven, arriving there at 4 p.m. This is the longest flight ever made by this service. Mails dropped at Southampton for Central Europe were despatched in the usual way from Croydon by the night air mail service.

The Belgian Minister of Foreign Affairs, who had been attending the World Economic Conference, made his first flight in an aeroplane on Saturday, when he returned to Brussels in a S.A.B.E.N.A. air-liner.

On Thursday, Sir Paul Latham, M.P., and his bride, Lady Patricia Moore, flew from Croydon to Paris by Imperial Airways. The air-liner being full to capacity, a special 'plane was chartered from Air Taxis to transport their baggage and lady Patricia's maid.

Air Taxis had another special charter on Friday to bring a bridal couple from Shoreham to Croydon. Honeymoon couples who believe in a flying start to their married lives are seen almost daily at Croydon.

On Saturday Air Taxis carried out a special charter to Le Touquet for a business man, who returned on Sunday. During the week-end Surrey Flying Service and Air Taxis experienced an exceptionally busy time pleasure flying.

There was a widespread rumour on Sunday afternoon that the Mollisons would take off from Croydon that evening on the start of their flight across the Atlantic. Mr.

and Mrs. Mollison arrived at the aerodrome shortly after 8 p.m. I met them in the aerodrome hotel. When I mentioned the rumour to them Mr. Mollison laughed at the suggestion. He said: "It is ridiculous, we have just motored here from Brighton, and only dropped in for refreshment." They left after only staying a few minutes, for Grosvenor House. I learnt later that they had made inquiries while at Croydon about Mr. Ulm, the Australian airman.

Mr. H. S. Robertson, Aviation Manager of Dunlop Export Aero section, left Croydon at 6 a.m. on Monday, July 3, for an aerial tour of Scandinavia and Northern Europe. He will probably make calls in twelve countries during the tour, which will take about three weeks.

Total number of passengers for the week were 2,371. Freight, 84 tons 14 cwt. HORATIUS.

FROM HESTON

HESTON's three "Cadets" have flown 70 hr. since they were delivered, just over a week ago. There is now the record number of 13 new pupils on the school books, and school hours for the month of June have run up to 305, an advance of 63 hr. on last year's figures. Another point of interest is that 1,160 jobs, varying in magnitude from daily inspection to complete rebuilding of aircraft, have been carried out by the Airwork Service Department in the last six months. Their activities are illustrated in a new booklet called "Weft Snarl" (anyone who reads it will know why).

An interesting and successful first soloist last week was Mrs. Gregory, who is consulting physician to the Royal Free Hospital and the Chadwick Hospital and a specialist in children's diseases. Her husband, Dr. H. A. C. Gregory, is himself a physician, pilot, and the owner of an aeroplane.

The two D.H. "Dragons," which will be operated by Misr-Airwork S.A.E. on a service between Cairo and Alexandria, left Heston on June 26 and arrived at Cannes the same night en route for Egypt. They are being flown by Capt. Spooner and Mr. B. W. Figgins, and are carrying as passengers the wives of three of the staff.

H.E. Taher Pasha, who has been staying at Heston Airport Hotel, is Vice-President of Misr-Airwork, and was an enthusiastic spectator when the "Dragons" left. He himself left for Croydon at 8.45 on June 28 in the British Air Navigation Co.'s "Gull," and continued to Paris by Air Union. The British Air Navigation Co. have had a busy week, in the course of which they have covered a distance of 3,336 miles. Their "Gull" and one of their "Puss Moths" flew back to England last week with pictures of the wedding in Lausanne of the Prince of Asturias, heir to the throne of Spain.

Mr. O. Gatty, who sailed for Spitzbergen and (ultimately) the North Pole with the Oxford and Cambridge expedition at 8 o'clock on June 27, discovered early in the afternoon that his patent and absolutely irreplaceable sleeping bag had been left behind in London. An urgent message summoned manservant and bag to Heston, and both were rushed to Newcastle in a "Puss Moth," transferred to a waiting launch, and the bag hoisted on board the *Venus*, lying outside, with very little time to spare.

On the Wednesday, Sir Basil Peto, M.P., flew to Barnstaple in Mr. Jackaman's Monospar to visit his constituency. Mr. and Mrs. Mollison left Heston the same evening in a B.A.N. Co. "Puss Moth" for the wedding of Mrs. Mollison's sister at Hull. Flt. Lt. Bergt Jacobsson, who came over from Sweden with Miss Eva Dickson (who is also Swedish) for the Royal Air Force display, left for the return flight at 4 a.m. on June 27, after staying overnight at the Heston Airport Hotel. Other visitors were Mr. Bernard de Skorzewski from Poland, who it will be remembered won the arrival competition at last year's "Week-end Aerion," and M. Roger Seligman from France in his Caudron.

Mr. Robin Cazalet, M.P., returning from Malta in his new Monospar, was held up by the officials at Catania while they obtained telegraphic confirmation that he had not been seen over forbidden territory. Mr. George Eyston, the racing motorist, came to the flying school for a refresher course on the "Cadets" on June 28.

SPEKE AERODROME NOW LIVERPOOL'S AIRPORT



LORD LONDONDERRY'S ARRIVAL: He was escorted by No. 29 (F.) Squadron and welcomed by the Lord Mayor. (FLIGHT Photos.)

LORD LONDONDERRY, Secretary of State for Air, opened Liverpool Airport officially on Saturday, July 1. He flew to the aerodrome in a Hawker "Hart" (R.R. "Kestrel") escorted by nine Bristol "Bulldogs" (Bristol "Jupiters") of No. 29 (Fighter) Squadron. On his arrival he was welcomed by the Lord Mayor (Councillor A. Gates), Group Capt. H. J. Hunter (Officer Commanding the R.A.F. Display), and Mr. F. G. Bertram (Deputy Director of Civil Aviation, representing the Director, Col. F. C. Shelmerdine). An inspection of the large number of R.A.F. aircraft followed before Lord Londonderry made a short speech declaring the airport open.

Everyone was relieved that the weather turned out reasonably fine, because they were naturally enough looking forward to seeing much of what they ought to have seen at Hendon. The fame of this R.A.F. display had evidently preceded it, as a truly huge crowd of "Liverpuddlians," numbering according to some estimates well over 50,000, thronged the aerodrome enclosures.

The first part of the programme was purely civilian flying and was somewhat tedious. The "Fly Past" was interesting because there were no less than 13 different types of aeroplane to be seen. They ranged from a Hawker "Hart" to a "Redwing" in the matter of speed, a Saro "Cloud" to a Comper "Swift" in size, and from a "Monospar" to a Bristol Fighter in modernity. Bringing up the rear of the Fly Past was a very well kept formation of two "Avians" and a "Moth" from the

(7-cyl. "Genet Major"). His inverted spin was a manoeuvre not often seen at displays of this kind.

Almost equally thrilling was a display by F/O. P. E. G. Sayer, one of Hawker's test pilots, on their demonstration "Hart." On some of his terrific climbs he must surely have had the throttle of his R.R. "Kestrel" right through the gate, for he went up and up and up!

The programme included two competitions. First an Arrival Competition which was won by Mr. M. Jackaman, who arrived in his "Monospar" (two Pobjoys) only a few seconds after his estimated time of arrival; he had Mrs. Shelmerdine as his passenger—Col. Shelmerdine, the D.C.A., was suddenly called away to Canada and unable to be present. Flt. Lt. J. B. Veal was second in one of A.S.T.'s. "Cadets" from Hamble, and Flt. Lt. J. B. Allen third in the Duchess of Bedford's "Puss Moth." Secondly, a Landing Competition, in which Flt. Lt. Veal was first; Mr. R. A. C. Brie second in an "Autogiro"; and Mr. O. F. Scott third in a "Puss Moth."

A race was also started, the course for which ran to Blackpool and back, but the competitors were held at Blackpool and not allowed to proceed until their arrival back at Liverpool did not interfere with the R.A.F. Display. The handicapping was as usual in the capable hands of Messrs. Rowarth and Dancy, and we gather that it would not have been fair to blame them on this occasion if the result had been far worse than it was, because the organisation seems to have broken down so that several machines had to be inspected almost "on the post." This, naturally, did not give the handicappers a fair chance, and it is all the more to their credit that the machines came in, at the finish, as close as they did (see table).

PANORAMIC: The imposing array of R.A.F. aircraft drawn up for inspection. (FLIGHT Photo.)





(1) **VICTORS** : Flt. Lt. Ivins with his winning old Bristol Fighter, which also carried Mr. Keith Jopp. (2) **MUGS** : Some of the visiting pilots lined up to receive pewter mugs and other prizes. (3) **DEMONS** : The Secretary of State for Air inspecting No. 23 (F.) Squadron. He was accompanied by Air Marshal Sir Robert Brooke-Popham and Group Capt. H. J. Hunter. (FLIGHT Photos.)

The winner was Flt. Lt. D. V. Ivins, who arrived back at Liverpool with Mr. Keith Jopp as a passenger, Mr. Jopp having had the misfortune to break his undercarriage during the race when landing at Blackpool. The old "Hispano" engine of the Bristol "Fighter" did not seem worried by the extra load; it just lapped up a little more National Benzole Mixture and romped home four seconds ahead of the next man.

We doubt if finer flying has ever been seen at a Flying Meeting than that which the R.A.F. gave us at Liverpool. Someone ought to write a book about their display at Hendon this year. Only in that way could sufficient space be got in which to do justice to their excellence. For the past few years there has been an almost distressing sameness about the Display. It seemed as if they had reached the limit of flying efficiency. By this year, however, they had had considerable experience of the Hawker "Fury" and "Hart" upon which to draw. They had learnt how best to utilise the amazing speed range of this Hawker-Rolls combination, and the result is that we have had to revise our ideas of aerobatic flying.

Before the "Fury" we just didn't have any aircraft which would make a complete roll by a formation of three machines possible, but now it is being done not only by an isolated flight, but by three flights in squadron formation, and while tied together, too!

On Saturday we had a feast of the prettiest flying imaginable. No. 23 Squadron carried out Squadron Air

Drill with their Hawker "Demon" machines which, like both the "Hart" and "Fury," have Rolls-Royce "Kestrel" engines. In several cases they changed formation over the aerodrome—a fine piece of showmanship which was also exceedingly interesting.

No. 1 Squadron's flight of three "Furies" did flight aerobatics. They looped, rolled, and made the tightest of turns, just as if they were only one machine. They even changed formation from line astern to flight Vee while halfway up the side of a loop! All their manoeuvres were exact and perfect, but best of all—if we may dare to say there was a best—was their final manoeuvre, the "Prince of Wales Feathers." This was carried through in an original way. The three machines dived across the aerodrome and then climbed together in a steep zoom. At the appropriate height the leader looped while the wing machines did aileron turns outwards and finally a sort of half-roll with a 90 deg. turn, so that they finished up with all three machines taking up formation in the same direction as that in which they originally came across the aerodrome.

The amazingly close formation flying while inverted, achieved by five pilots from the Central Flying School, on Avro "Tutors" ("Lynx") has already been well illustrated in FLIGHT, and all that was seen in those photographs was repeated at Liverpool. They even changed formation while on their backs. Perhaps the fact that the flight includes two rugger players, used to "getting



their heads down," accounts for their apparent liking of extraordinarily long spells of inverted flying.

The Air Combat between three "Furies" from No. 43 (F.) Squadron and an "Audax" of No. 4 (A.C.) Squadron gave the crowd a clear idea of how modern high-speed fighting aircraft would harass a larger machine, but in this case the performance of the larger machine was so nearly up to that of the fighters that we doubt whether she would have been shot down anything like so early as she was—certainly not if the rear gunner was, in efficiency, up to the usual R.A.F. standard.

The "Tied-Together Drill" executed by No. 25 (F.) Squadron was, as we expected, better than ever seen before. They kept their "Furies" tied together throughout the whole display, even to landing, turning on the aerodrome, and taxiing back to the machine park. Their final display was a wonderful exhibition of accurate flying, because they performed a perfect "Prince of Wales' Feathers," as a squadron, that is, each flight took the place of a single machine in the normal manoeuvre—and still tied together, mark you!

To end the R.A.F. Display, the Fairey (Napier) Long-Range Monoplane flew round for everyone to look at, after which it went back to Farnborough.

As an ending to the programme there was more civil flying. Mr. Tangye, the latest recruit to the A.A. aviation department, showed off the manoeuvrability of the Comper "Swift" ("Pobjoy"), and particularly impressive was his series of slow rolls right across the aerodrome.

After the R.A.F. machines had made a farewell dive across the aerodrome *en route* to Sealand, the Secretary of State for Air presented prizes and trophies to those who had won them.

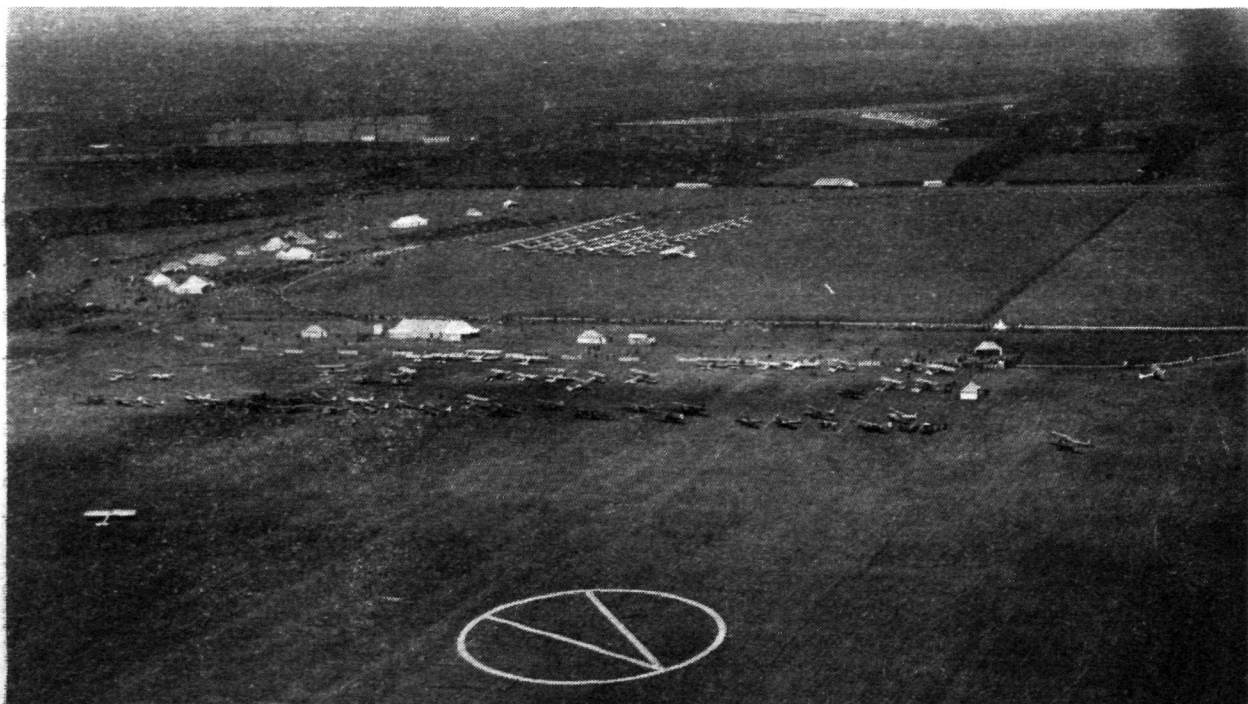
In the evening the Lord Mayor presided at a dinner for the visiting pilots and guests. He himself proposed the health of Lord Londonderry, and in doing so admitted that he had been antagonistic to the establishment of an airport, but that he was now converted. Lord Londonderry, in reply, said that he was convinced that it was along the road of reduction and limitation of armaments that the ultimate abolition of war between nations was to be found. Speaking of the new airport, he hoped that a fleet of air liners would soon be added to the fleet of steamships which at present united Liverpool and Belfast. Finally, he looked forward to the day when a landing field would form part of the equipment of every town. Others who spoke were Ald. Sir Max Muspratt, Chairman

THE LIVERPOOL-BLACKPOOL-LIVERPOOL RACE.

| Place | Pilot. | Aircraft Engine | Handicap Allowance | Finishing Time | | | Av. Speed |
|-------|---------------------------------|---------------------------|--------------------|----------------|----|----------|-----------|
| | | | | m. | s. | h. m. s. | |
| 1 | Flt. Lt. D. V. Ivins | Bristol Fighter (Hispano) | 6 07 | 18 | 07 | 11 | 114½ |
| 2 | R. C. Winn | Moth (Gipsy II) | 6 43 | 18 | 07 | 15 | 112½ |
| 3 | Lord M. A. Douglas Hamilton | Moth (Gipsy I) .. | 10 14 | 18 | 07 | 42 | 102½ |
| 4 | C. E. Gardner | Cadet (Genet Major 7Cyl.) | 4 02 | 18 | 07 | 47 | 118½ |
| 5 | A. C. M. Jackaman | Moth (Gipsy II) | 5 43 | 18 | 08 | 23 | 112 |
| 6 | Flt. Lt. A. P. K. Hattersley .. | Puss Moth (Gipsy III) | 0 18 | 18 | 08 | 48 | 128 |
| 7 | H. C. D. Hayter | Puss Moth (Gipsy III) | scratch | 18 | 10 | 05 | 124½ |
| 8 | A. H. Cook | Swift (Pobjoy R.) | 1 50 | 18 | 10 | 15 | 118 |
| 9 | R. G. Davies | Sports Avian (Hermes II) | 4 57 | 18 | 10 | 28 | 108½ |
| 10 | H. V. Worrall | Moth (Gipsy I) .. | 10 14 | 18 | 10 | 37 | 96 |
| d. | F/O B. Paddon | Bluebird (Genet II) | 21 05 | 18 | 12 | 40 | 75 |
| rtd. | F/O H. Leach | Moth (Gipsy I) .. | 10 14 | — | — | — | — |
| rtd. | S. Keith Jopp | Moth (Gipsy I) .. | 5 43 | — | — | — | — |

Flying Officers Leach and Paddon missed the Turning Point at Huyton School. S. Keith Jopp retired at Stanley Park with a broken undercarriage.

of the Airport Committee, and Ald. Sir Thomas White. In conclusion, a word about the organisation in general. As is usual on these occasions, critics of the arrangements were many, for destructive criticism is the easiest thing to voice. There were, however, several points which might quite justifiably be severely criticised in connection with this Display. First of all, the management did not seem to realise the extent to which they are indebted to the visiting pilots and their passengers; they provided ample room, for example, for the ordinary public to get cars close to the aerodrome so that they would have had shelter had it rained—which at times seemed very likely—but there was no similar provision in the enclosure for the guests. Then, again, Speke is many miles from Liverpool, but there seemed to be little or no arrangement for getting the guests—meaning the pilots and their passengers—into the city after the display. The result was that many arrived late for the official dinner after fighting their way via trams and on foot. The arrangements for the provision of music were by no means efficient. It seemed very bad luck on the Police Band to get them down to the aerodrome and established in front of the enclosures, only to turn on a blast of synthetic music from the loud speakers every time they started to play—particularly so when they struck up "Londonderry Airs" while the Secretary of State for Air was being driven round the enclosures! The civil part of the programme left a lot to be desired. The waits between the items were far too long, and some of the events themselves were, to say the least of it, waste of time. We will hazard a guess that not one of the large crowd of general public there was at



FROM ABOVE: Liverpool's airport looked impressive when viewed by our photographer from the Lancashire Aero Club's new Avro "Cadet." (FLIGHT Photo.)

all interested in the spectacle of an alleged Customs official signing papers before a machine took off!

As regards the running commentary which was kept up about the various events. We know only too well that it is wellnigh impossible to satisfy pilots and others actually in aviation, when speaking to the general public, but surely it was unnecessary to make statements like "Flt. Lt. Stainforth, who won the British World's Speed Record in the Schneider Cup Trophy of 1931 . . ."! Nor do we see how he could have been "stalling, almost nose diving," when doing his slow flying!

The question of how dangerous any event should be allowed to be, in an endeavour to thrill the crowd, is very difficult to decide, and in the course of years we have seen many hair-raising events, but we doubt whether anything we have experienced was quite so shaking as a display in this programme which entailed looping a light aircraft off the ground and bursting a tethered balloon at the bottom of that loop. We take off our hat to the pilot—unnamed in the programme—who did this. His skill was undoubted, but we question the wisdom of the management in getting him to do it.

AIR-MINDED ULSTER

MRS. CLEAVER was responsible for a well-organised Flying Display which was held on Aldergrove Aerodrome, Co. Antrim, on Saturday, July 1.

Her avowed intention was to stimulate air-mindedness in Ulster, and from the number of spectators who went to see the Display there is little doubt that she succeeded. We gather that from every point of view it was a great success.

Naturally, with the counter-attraction of the opening of Liverpool Airport on the same day, it was not to be expected that many visitors would fly over from England. Quite an appreciable number did so, however, thereby greatly adding to the interest of the afternoon for the public.

Among those who attended and who very greatly appreciated the hospitality which was extended to them during their stay were:—Miss "Susan" Slade, in her "Moth" ("Gipsy I"); the increasing business at Heston rarely permits her to get away, but this time she made a proper "do" of it, calling at Newcastle for Miss Connie Leathart, of Cramlington Aircraft, Ltd., on the way; Mr. Phillip Wills, with three passengers in a "Fox Moth"; Mr. and Mrs. Ivor McClure, in their well-known "Moth" ("Gipsy I"), with its appropriate lettering, G-AAAA, appropriate because Mr. McClure is in charge of the aviation department of the Automobile Association, which incidentally sent excellent and full route instructions to all those pilots attending the Display; so thorough and full was this information, that it included copies of the A.A. Register of Landing Grounds appropriate to the occasion and all necessary details of courses, distances, and local flying regulations; Mr. and Mrs. Chalmers, in a "Moth" ("Gipsy I"); Mr. E. Percival, in a "Gull," with Lord Halsbury; Mr. Gordon Selfridge, Junr., with Miss Rosalind Norman; Mr. R. Preston; and Mr. R. Ince with Lord Donegall, all in "Puss Moth" ("Gipsy III") machines; Capt. T. N. Stack and Mr. A. Muntz,

in a "Tiger Moth"; Mr. R. Cazalet, in his new "Monospar" (two "Pobjoys"), which he has just flown back from Malta; Mr. and Mrs. Williams, in a "Moth."

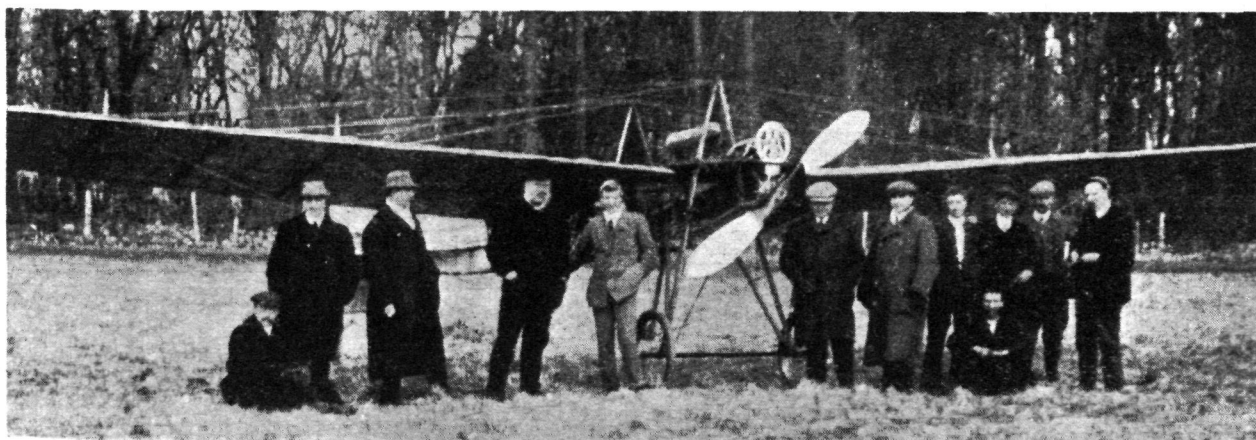
Lord Clydesdale brought over a flight of "Wapiti" aircraft from No. 602 (City of Glasgow) (Bomber) Squadron, from Abbotsinch, the aerodrome of the Auxiliary Air Force at Glasgow, which gave an excellent display of formation flying.

During the afternoon Wing. Com. L. T. N. Gould, in command of No. 502 (Ulster) (Bomber) Squadron, gave a display with three of his "Virginia" night bombers, and the roar of their Napier "Lion" engines moved the crowd to enthusiasm. Miss Slade distinguished herself by bursting all the balloons when it came to her turn in that particular form of skill, and several others either demonstrated the various machines in which they had flown over or gave aerobatic and crazy-flying displays. There was a parachute drop by Mr. J. Gilmore.

In the evening the Lord Mayor (Sir Crawford McCullagh) presided at a dinner for the visiting pilots, at which a number of prominent people gave voice to their feelings as to the desirability of Belfast having a municipal airport, and also of establishing a flourishing Aero Club. These two most praiseworthy objects were really the *raison d'être* of Mrs. Cleaver's efforts, and we hope that her work will in due course result in achieving both of them.

The health of the visitors was drunk and a reply made by Lord Halsbury. The Ulster Aero Club's health was drunk and a reply made by the Rt. Hon. J. M. Barber (Minister of Commerce). Lord Donegall also spoke, and Mrs. Cleaver, who got the reception she undoubtedly deserved, made a pretty reference of thanks to Wing. Com. Gould, Mr. Preston, Mr. Percival and others who had worked hard to make the show a real banger.

A large party was afterwards taken out by Mr. Rives Shillington (A.D.C. to the Governor), and Mr. Barber, to the Royal Ulster Yacht Club to witness the midnight sailing race by the searchlights of H.M.S. *Rodney*.



ULSTER'S FIRST AEROPLANE: This picture, taken in 1910, shows Mr. Harry Fergusson's monoplane just before a trial flight. Note the "A.A." badge.



East African Schoolboys' Air Party

A VERY successful schoolboys' party was recently organised by the Aero Club of East Africa to instill air-mindedness into the minds of local boys. A height-judging competition was held, and the guesses, they could be called nothing else, ranged from 420 ft. to 1,700 ft., the winner being Master Earnest Bigwood, who estimated or guessed the height to be 1,650 ft., actually it was 1,600 ft. A scramble for tennis balls dropped from a

plane was not quite such a success, perhaps because it was held after tea, and the energy of the boys was somewhat handicapped by the amount eaten. Imperial Airways kindly allowed the boys to look over the Mailplane which arrived during the afternoon. Two Club machines gave a display of flying during the afternoon, and members gave constructive lectures upon the mysteries of flight; the questions asked by the boys indicated that they had very shrewd ideas regarding the theory of flight.

From the Clubs

BRISTOL AND WESSEX AEROPLANE CLUB

Members of the Bristol and Wessex Aeroplane Club put in 223 hr. flying on Club machines during June. Five new pupils started training, which brings the total number of pupils up to 16. The free flying scholarship, awarded by the Club, was won by Mr. A. G. Neale, of 38, Coldharbour Road, Redland, Bristol, and Mr. H. R. Wheeler, of 46, Logan Road, Bishopston, Bristol. Mr. Neale, who is a member of the Bristol City Police Force, has already made his first solo flight.

MAIDSTONE AERO CLUB

The monthly "At Home" was held on Sunday, July 2. The official opening of Maidstone Airport and Aero Club will take place on Saturday, July 22, from 2.30 p.m. The opening ceremony will be performed by The Marquis of Douglas and Clydesdale, M.P., A.A.F. The event will take the form of a garden party, and it is hoped that as many as possible will attend. Admission will be free. During the afternoon some of the latest aircraft will be demonstrated, there will be an aerobatic display, a parachute jump, joyriding and such lighter forms of amusement as cocoanut shies, etc. A military band will play during the afternoon and a dance orchestra in the evening.

SOUTHERN AERO CLUB

Miss N. B. Birkett, who retired at the end of May from her secretaryship of the Club, which position she has held for six years, was presented with a silver salver and ash-trays, together with an illuminated booklet containing the names of the many subscribing members. The secretarial duties have been taken over by Capt. C. Titterton. Mr. A. W. S. Alexander, having completed his tests, has received his "A" licence.

LEICESTERSHIRE AERO CLUB

During June 125 hr. 30 min. were flown, and 53 cross-country flights were made to 18 aerodromes. The Club's "Gipsy II Moth" was awarded the cup for the first place in its class in the Eastbourne Concours d'Elegance. On the following day Mr. J. T. L. Baxter, in the same machine, won the third prize in the Shoreham-Bristol race for the S.B.A.C. Challenge Cup. Mr. Philip Symington won second prize and also the cup for the fastest time in his "Swift." Sir Alan Cobham gave a successful display at Desford. First solos were Messrs. J. E. Arland, J. G. Lunt and J. H. Wilson.

READING AERO CLUB

The flying times for the past week totalled 45 hr. 45 min. A first solo was done by Mr. Dismore, who also passed tests for an "A" licence, as also did Dr. Cruikshanks and Herr Persicander, who is a German journalist visiting England to study British aviation, as the English correspondent of a German news agency. Mrs. Gabriel Paterson has taken the instructors' course under F/O. J. F. Lawn, the Chief Instructor, and has been passed out by A. S. T. Hamble. The first Miles "Hawk" went to Martlesham on a Friday afternoon, and by Saturday afternoon had been passed with no modifications. The School of Flying has been so busy that Mr. Lawn and Mr. Miles were compelled to get the assistance of Capt. Pennington.

BROOKLANDS

Flying hours for the week totalled 80. First soloists included Messrs. Voute, Robinson and Fairlie, the latter being in the process of renewing his "A" licence. New pupils include Miss Farmiloe, Mrs. Motion, and Messrs. Burge, Baker and Carr. The Duchess of Bedford visited the aerodrome in her "Gipsy Moth." Mr. Mees has been flying long cross-country flights before leaving for Holland. Mr. Van Marken and Mr. Midgley have also left for Holland.

YORKSHIRE AEROPLANE CLUB

Flying times for the month totalled 150 hr., 30 of which were flown during the last week. New members to join the Club during the month numbered eight, making a total of 28 new members for the year. Mr. G. Shaw, on his "Avian," paid the Club a visit.

HANWORTH (N.F.S.)

Flying times for the past week amounted to 85 hr. Cross-country flights included Capt. Findlay and Miss Reynolds to Gatwick and Marlborough; Capt. Guest to

Tangmere; Mr. R. Bentley to Belfast; Sqd. Ldr. Wynne-Eaton and Mr. Tulloh to Munich. Miss Bebe Daniels visited the Club on Tuesday, June 27, and with her husband was flown by Capt. Wilson to Manston, where they opened a charity ball at Margate, flying to Elstree the following day. Other visitors during the week included F/O. Hughes Hallett, instructor of Northolt; Capt. Guest with Mr. Warburton; Mr. Singh from Bristol; Le Comte de Chateaubrun in his Percival "Gull," and Flt. Lt. Comper. A visit to the Club was also made by a party of representatives of the Bethnal Green Chamber of Commerce, many of whom had joyrides. Mr. Badhe was given cross-country dual by Capt. Findlay for his "B" licence, and Mr. Von Bahr carried out his first solo. On Saturday next, July 8, the Inns of Court Regiment are giving their squadron gymkhana at Hanworth.

THE SOUTHEAST FLYING CLUB

June with its long summer evenings has been a very active month for the Southend Flying Club, and 76 flying hours have been completed on the Club machines. Three local members, B. L. Anderson, A. Kind and S. S. Sylvester, and a member from Chelmsford, S. F. Preston, have qualified for pilots' "A" licence. G. Ocroft made his first solo flight and is making very good progress. At present there are 17 pupils taking flying instruction under Capt. H. A. Love on the de Havilland "Moth," and five more have had trial lessons. The Club aeroplanes have also been busy in air taxi work; many trips have been made to Gravesend, Maidstone and Loughton. Mr. Clark chartered the "Moth" for a business visit to Exeter and a flight was taken to the R.A.F. Display at Hendon. Tempted by the fine weather, several prominent people in the Borough have had their first flights, among whom were Dr. Sarra and Mr. Wixley, who made a "flying" visit to the new Municipal Aerodrome at Gravesend. On Sunday afternoon, July 9, the Club are holding a tea party for members and their friends in the clubhouse, or in its shade on the lawn if the hot weather continues, at the aerodrome at Rochford, and invitations have been sent to adjacent aero clubs to send their machines. Flying will be in progress all the afternoon, including a demonstration by Capt. Love. An interesting feature of the afternoon will be an exhibition by the Southend Skybird League of Skybird model aeroplanes and a complete modern aerodrome.

TORONTO FLYING CLUB

On Sunday, June 18, the Toronto Flying Club held what is known as its annual Dawn to Dusk Patrol to commemorate the crossing of the Atlantic by Alcock and Brown. During the day the Club members put in a total of 49 hr. on five aircraft. Flying started half an hour before sunrise and continued until darkness. The machines used were two "Gipsy Moths," a "Cirrus Moth" and two "Avians." In spite of the fact that all the "Moths" had flown well over 1,000 hr. there was no mechanical trouble. Forty-nine hours' flying in one day, using five machines, takes some beating.

THE DE HAVILLAND SCHOOL OF FLYING

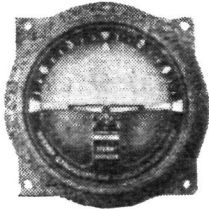
THE flying time for the week ending June 30 was 141 hr. 25 min. Mr. and Mrs. Mollison arrived in "Dragon Moth" G-ACEU on June 28 for Amy to practise take-offs with a full load. Their commendable thoroughness in the preparation for their Atlantic flight commands success. Capt. Monohan, the American Military Attaché, has been carrying out the monthly flying practices in the American "Puss Moth," as laid down by the United States Service. The swimming pool and squash courts are now finished, and, judging by the bookings for the latter, they supply a much needed want. Mr. Ben Lyon, who holds an American pilot's licence, is qualifying for his "A" licence here on the Stage and Screen Club machine. He and his wife (Bebe Daniels) arrived in full evening kit at 7.30 p.m. last Wednesday to fly to Margate in an air taxi for a dinner appointment. Mr. Beckworth and Mr. Grills, who recently arrived from Australia, have joined the School to take their "A" licences. Five new members have joined the County Aero and Sporting Club during the week.

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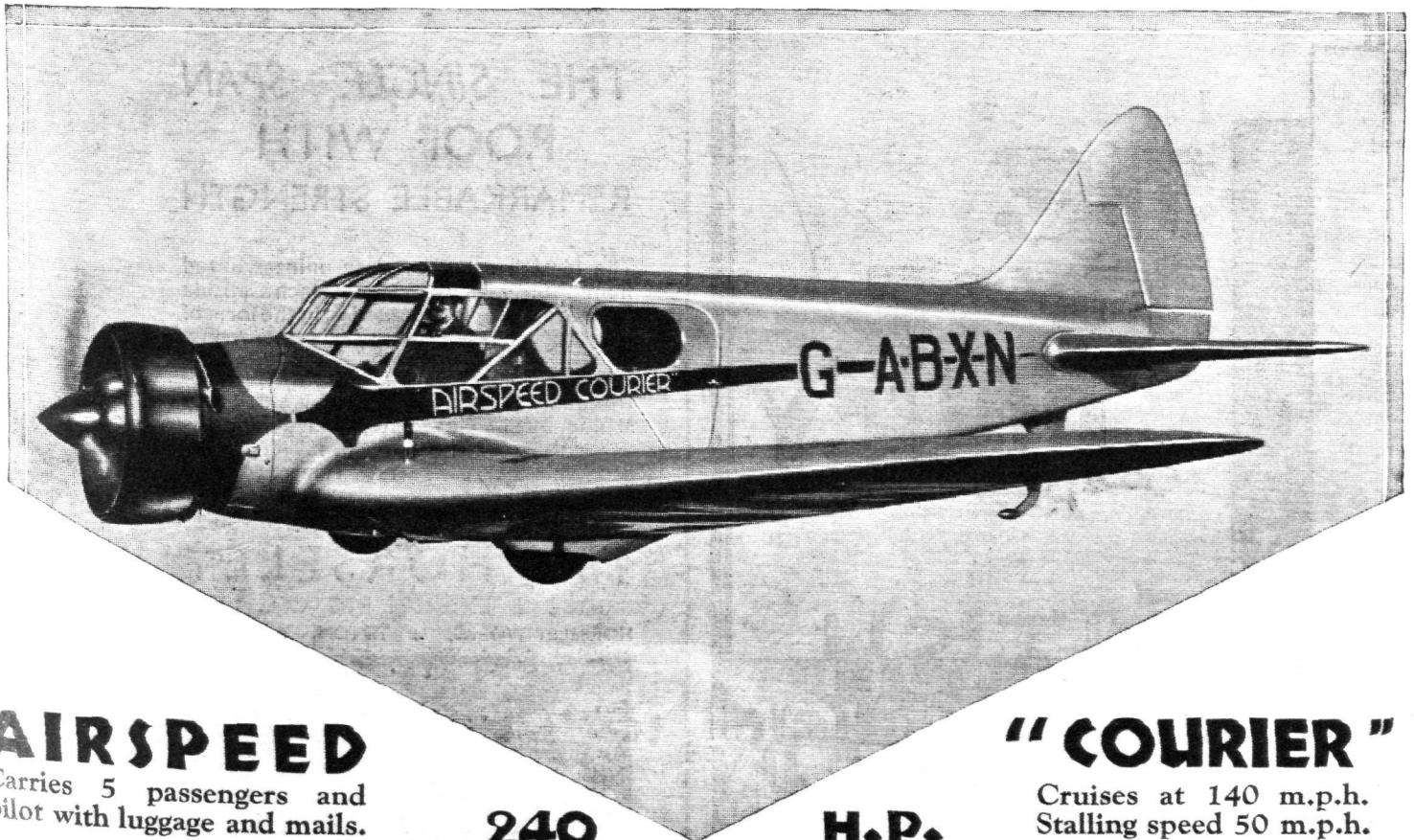
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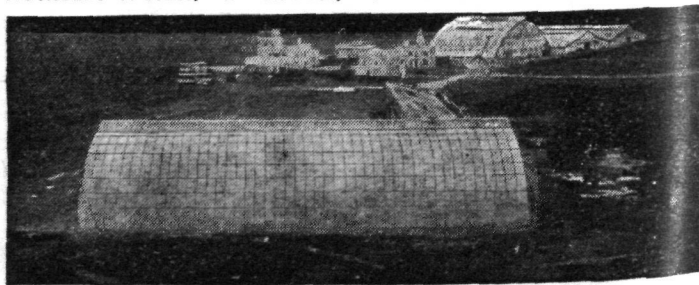
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TWO JAPANESE MILITARY MACHINES

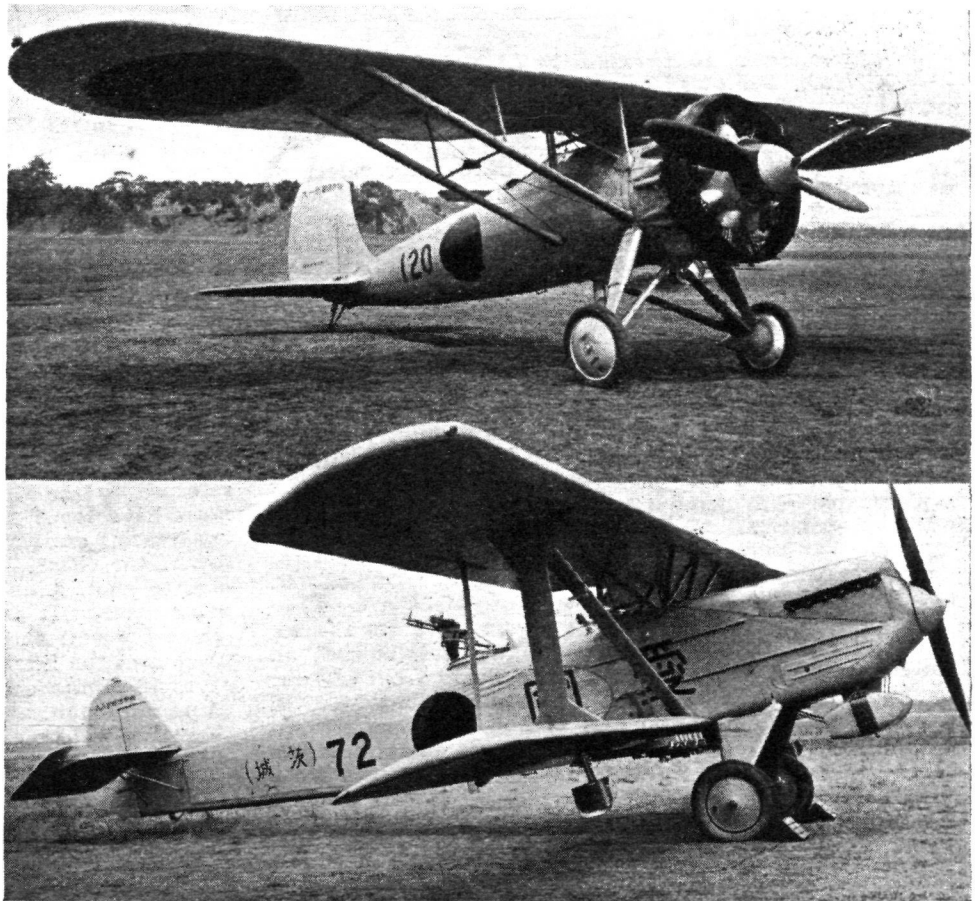
POWERED with a Nakajima "Jupiter VII" super-charged engine, the Nakajima type "91" is a high altitude single-seater fighter. This monoplane was designed and constructed by the Nakajima Aeroplane Co., Tokio, with the co-operation of the Technical Department of the Army Air Force.

The constructional features are not yet published, but it will be of interest to note that the load factor of this plane is 18, the same as in the recent French fighter competitors. Performance figures are as follows:—

Maximum speed at 3,000 m., 310 km./h. (192 m.p.h.).
Rate of climb, 3,000 m. in 3 m. 20 sec.
Rate of climb, 5,000 m. in 8 m. 40 sec.
Service ceiling, 8,500 m. (28,000 ft.).

The army has published the opinion that the Nakajima monoplane possesses a superior manoeuvrability (for instance, several turns of a vertical upward spin are possible without any acceleration), and can be more easily handled in aerobatics than some single-seater fighters abroad which have recently won the highest reputation in point of performance, although its maximum speed is not so high. Altogether, the Japanese army believes that the "91" monoplane is one of the finest single-seater fighters in the world. (Both the Nakajima and the Kawasaki fighters are the standard equipments for the Japanese Army Air Force.)

The Kawasaki K.D.4 general-purpose biplane, with Kawasaki B.M.W. 450 h.p. engine (known in the army as



UPPER PHOTO: The Nakajima "91" s.s. fighter, "Jupiter VII" engine.
LOWER PHOTO: The Kawasaki "88" general-purpose machine with 450-h.p. B.M.W. engine. The machine was presented by people of Ibaraki prefecture, and the Japanese name "Aikoku" means "The Patriot."

the type "88"), is the standard equipment for the "reconnaissance" class in the Japanese Army Air Force.

Span, 15.20 m. (50 ft.); length, 11.28 m. (37 ft.); height, 3.30 m. (10 ft. 9 in.); wing area, 48 m.² (517 sq. ft.); weight empty, 1,760 kg. (3,875 lb.); disposable load, 1,250 kg. (2,750 lb.); gross weight, 3,010 kg. (6,625 lb.); max. speed, 230 km./h. (143 m.p.h.).

The constructional features: The rectangular fuselage is built up of a number of transverse frames covered forward with sheet duralmin and aft with fabric. The wings are built up of two drawn sheet-steel spars and duralmin ribs covered with fabric. Divided type wheel under-carriage, side vees are streamlined. In the year before last, two of this type succeeded in the long-distance flight from Tokio to Formosa, including the night flying over the China Sea for more than fifteen hours' endurance, and more recently, by an urgent demand in Manchuria, a squadron of this 'plane despatched from Tokorozawa, Tokio, having no time to cover the Korean routes, made the 2,000 kilometres non-stop flight in formation across the Japan Sea in a straight line to Mukden with great success (under the command of Capt. Y. Fujita).

A considerable number of this "88" type, it will be of interest to note, are now being used in Manchuria for bombing rebels.

J. W.



A MILLIONAIRE'S GIFT: The Nakajima "91" was presented to the Army by Mr. Kobuse, a millionaire.



Farnborough Experimental Beacon

AIR MINISTRY notice to airmen, series A, No. 37, of the year 1933, states that:—

An experimental track indicating airway light beacon will be operated until further notice at Farnborough Aerodrome between the hours of sunset and sunrise.

Within the sectors 70 deg. to 90 deg. and 250 deg. to 270 deg., the beacon exhibits a white group-flashing light every 5 sec. The group-flashing light changes gradually in character across each sector (as viewed from an aircraft), and consists of three white flashes separated by eclipses of

equal duration, in the centre of each sector only, i.e., on the bearing 80 deg. or its reciprocal 260 deg., corresponding to the track Farnborough to Croydon or Farnborough to Andover, respectively. Elsewhere, from 90 deg. through South to 270 deg., and from 290 deg. through North to 70 deg., the beacon exhibits one white flashing light every 5 sec.

In addition, the beacon carries an identification light of short range, comprising a red code light flashing the Morse letter "U" every 10 sec.

The visibility of the main beacon light is approximately 50 miles.

Book Reviews

"*Recollections of an Airman*," by Lt. Col. L. S. Strange, D.S.O., M.C., D.F.C. (John Hamilton, Ltd.). Obtainable from FLIGHT Office. 11s., post free.

"Dedicated to a luckless but not fameless generation."

This excellent book combines the three main values of literature—entertainment, information and ease of style. Col. Strange is known to almost everybody in aviation as particularly "good company." It is not surprising, therefore, to find his book is also good company. In the first place, it is sufficiently seasoned with humour and humanity to be entertaining; in the second, the experience of the author, his eagerness for fair, unadorned and complete fact makes his book a real contribution toward history. His knack of seeing from the other man's point of view is stereoscopic in its effect of putting incidents, customs and tactics in their proper relationship. His style of writing is accomplished, peculiarly lucid, has freedom from undue accent and often a very pretty turn of phrase. The book is illustrated with many excellent photographs, mostly of wartime operation. Col. Strange had many opportunities of seeing war at its seat on the Western Front and also at home. It is easy to believe that, in his case, skilled and experienced pilot as he was even then, his home service was almost less of a sinecure than were his tours abroad. I do not recollect any biography which deals in such an entertaining manner with continuous flying from pre-war to post-war periods, nor do I recall an autobiography in which the author gives no hint of how his many decorations are won. That they were won over and over again in this case is perfectly obvious to any reader who looks between the lines. I recommend this book with absolute confidence to any pilot who flew during the war and likes

to re-live his experiences and to any seeker after historical truth about the war in the air. J.

"*Wind in the Wires*," by Duncan Grinnell-Milne (Hurst and Blackett). Obtainable from FLIGHT Office. Price, 8s. post free.

Nowadays books dealing with the aerial side of the late war appear to be blowing into publishers' offices on the four winds of heaven. Mercifully publishers are ruthless in their discrimination, and do not pass books unless they have a very definite appeal. Books about war flying are bound to possess a certain interest by very reason of their subject, but when Messrs. Hurst & Blackett blossom forth with such a book there must be more in it than mere excitement. "*Wind in the Wires*," by Duncan Grinnell-Milne, is a war book in a class by itself, and, moreover, with a clever title. The author first saw service with the R.F.C. in 1915. He was taken prisoner, escaped, and only returned to the war towards the end of hostilities. He must have loved flying—no doubt still does; it was the exhilarating excitement that appealed to him more than the joy of the chase. From beginning to end the book is a lure to read, a quaint sense of humour rippling through every page. It is well written and there are passages which are outstanding and stamp the author as no mean student of the English language. The whimsical behaviour of some of the earlier types of machines is described in delightful detail, and many of the characters referred to by nickname will be easily recognised by any conversant with those early days. It seems a pity that Mr. Grinnell-Milne has deferred, for so many years, describing his flying experiences, and it is to be hoped he will again put pen to paper in the near future.



Control of Private Flying

THE MOST HON. THE MARQUESS OF LONDONDERRY, K.G., Secretary of State for Air, has appointed an independent Committee to consider the regulations at present governing private flying, the present control exercised by the Air Ministry and the practicability and desirability of its relaxation. The terms of reference will be as follows:—

"To examine the requirements of the present Air Navigation Regulations, with particular reference to those governing private flying, in such matters as certificates of airworthiness; to consider whether, and in what respects, the present system of control by the Air Ministry should be modified by way of devolution or otherwise; and to make recommendations in regard to these and any cognate questions which may be remitted to them by the Secretary of State."

The Right Hon. Lord Gorell, C.B.E., M.C., has consented to act as Chairman and the following have agreed to serve as members:—Capt. Harold Balfour, M.C., M.P.; E. C. Gordon England, Esq.; W. Lindsay Everard, Esq., M.P.; Lt. Col. J. T. C. Moore-Brabazon, M.C., M.P.; F. Handley Page, Esq., C.B.E. (representing the Society of British Aircraft Constructors).

It is intended to add a member with special knowledge of insurance. The Secretary will be W. W. Burkett, Esq., M.C., of the Air Ministry. The Committee has been asked to commence its investigations forthwith.

Changes in the Higher Commands, Royal Air Force

THE Air Ministry announces the following appointments:—

Air Commodore Richard Edmund Charles Peirse, D.S.O., A.F.C., now Deputy Director of Operations and Intelligence, Air Ministry, to be Air Officer Commanding, Palestine and Transjordan, as from October, 1933, vice Air Vice-Marshal Wilfrid Rhodes Freeman, C.B., D.S.O., M.C.

Group Capt. Charles Frederick Algernon Portal, D.S.O., M.C., now serving in the Directorate of Operations and Intelligence, Air Ministry, to be Officer Commanding, Aden, as from January, 1934, vice Group Capt. Owen Tudor Boyd, O.B.E., M.C., A.F.C.

Air Commodore R. E. C. Peirse was appointed to the Royal Flying Corps (Naval Wing) in October, 1913, having

been granted the Royal Aero Club Certificate (No. 460) in the previous April. He served with the Royal Naval Air Service during the greater part of the War and was awarded the D.S.O. for making repeated attacks on the German submarine stations at Ostend and Zeebrugge in January, 1915. In January, 1919, he was awarded the A.F.C. in recognition of distinguished war service and in the same year received the Italian Croix de Guerre for service in the Mediterranean Area. He was given a permanent commission in the Royal Air Force in 1919, commanded at Gosport in 1923 and later was appointed, for Air Staff duties, successively to the Directorate of Organisation and Staff Duties, Air Ministry, the Middle East Command and Coastal Area Headquarters. While in the Middle East Command he commanded at Heliopolis and for a short period served in Palestine and Transjordan. He was promoted Group Captain in July, 1929, and was appointed Deputy Director of Operations and Intelligence in December, 1930. On July 1, 1933, he was promoted Air Commodore.

Group Capt. C. F. A. Portal was appointed to the Royal Flying Corps in November, 1915 (having previously served in the Royal Engineers), and gained his Royal Aero Club Certificate (No. 2543) on March 9, 1916. For his services in France during the War he was awarded the M.C. early in 1917, the D.S.O. in July, 1917, and the bar to the D.S.O. a year later—in each case for conspicuous gallantry—besides being mentioned three times in despatches. He was given a permanent commission in the Royal Air Force in 1919 while serving at Cranwell, was appointed to the Directorate of Operations and Intelligence, Air Ministry, for Air Staff duties in 1923, commanded No. 7 (Bomber) Squadron in 1927, and returned to the Directorate of Operations and Intelligence in 1930. He became Group Captain in July, 1931. He graduated at the R.A.F. Staff College in 1923 and has since attended the Senior Officers' War Course and the Imperial Defence College.

Sir Richard Glazebrook

An old pioneer of aviation, Sir Richard Glazebrook, celebrated his golden wedding in June.

"Loch Everest"

It is reported that a lake in the region of Mount Everest is to be called "Loch Everest." It will be the only loch outside Scotland.

THE ROYAL AIR FORCE

London Gazette, June 27, 1933.

General Duties Branch

Lt.-Cdr. C. W. Byas, R.N., is re-attached to R.A.F. as a Flight Lt. with effect from June 20 and with seny. of Jan. 1; Pilot Officer D. McD. Fenton is promoted to rank of Flying Officer (June 19); Air Commodore R. P. Ross, D.S.O., A.F.C., is placed on half-pay list, Scale A (June 7); Sqdn. Ldr. F. R. Wynne, M.B.E., is placed on half-pay list, Scale B, from June 22 to Aug. 31 inclusive; Flt. Lt. C. E. Barraclough is placed on half-pay list, Scale A, from June 15 to July 18 inclusive; Flying Officer A. L. Franks is seconded for duty with the Iraq Government (June 17); Wing Comdr. D. A. Oliver, D.S.O., O.B.E., is placed on retired list (June 22).

The follg. cease to be attached to R.A.F. on return to Naval duty (Feb. 1, 1932): Lt. J. E. Burstall, R.N., Flying Officer, R.A.F.; Lt. C. A. N. Hooper, R.N., Flying Officer (now Flight Lt.), R.A.F. (Substituted for *Gazette*, Feb. 16, 1932.)

Lt. C. W. Phillips, R.N., Flying Officer, R.A.F., relinquishes his temp. commn. on retirement from the Royal Navy (June 2). The short service commns. of the follg. Acting Pilot Officers on probation are terminated on cessation of duty (June 21): A. C. Meeson, D. G. A. Rearden.

Medical Branch

J. L. Walsh, M.B., B.S., is granted a short service commn. as Flying Officer for three years on the active list with effect from April 18, and with seny. of April 18, 1932.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captain H. L. Reilly, D.S.O., to No. 21 Group H.Q., West Drayton, 15.6.33, to command *vice* G./Capt. G. P. Grenfell, D.S.O.

Squadron Leaders: G. H. Boyce, A.F.C., to No. 812 (F.T.B.) Sqdn., 12.6.33, to command. C. Bounphrey, D.F.C., for No. 23 Group H.Q., Grantham, 26.6.33, for Personnel Staff duties, *vice* S./Ldr. R. Halley, D.F.C., A.F.C. W. E. Swann, to No. 802 (F.F.) Sqdn., 9.6.33, to command. S. F. Vincent, A.F.C., to No. 84 (B) Sqdn., Shaibah, Iraq, 26.5.33, to command *vice* S./Ldr. P. L. Plant. H. G. White, to H.Q., Air Defence of Gt. Britain, Uxbridge, 26.6.33, for equipment Staff duties *vice* S./Ldr. G. G. Dawson.

Flight Lieutenants: M. J. Du Cray, to R.A.F. Depot, Uxbridge, 21.6.33. S. H. C. Gray, to No. 26 (A.C.) Sqdn., Catterick, 19.6.33.

Flying Officers: D. B. D. Field, to No. 32 (F) Sqdn., Biggin Hill, 15.6.33. A. N. Luxmoore, to No. 3 Armament Training Camp, Sutton Bridge, 16.6.33. W. R. A. Matheson, to No. 602 (City of Glasgow) (B) Sqdn., Abbotsinch, 17.5.33. L. G. Belchem, to No. 204 (F.B.) Sqdn., Mount Batten, 4.6.33. L. F. Brown, to No. 209 (F.B.) Sqdn., Mount Batten, 4.6.33. G. R. Canavan, to No. 201 (F.B.) Sqdn., Calshot, 4.6.33. W. J. Hickey, to No. 210 (F.B.) Sqdn., Pembroke Dock, 4.6.33. R. I. B. Winn, to No. 204 (F.B.) Sqdn., Mount Batten, 4.6.33. G. Burdick, to R.A.F. Depot, Uxbridge, 26.6.33. J. N. Duiort, to No. 25 (F) Sqdn., Hawkinge, 26.6.33. E. C. Ingham, to No. 802 (F.F.) Sqdn., 21.6.33.

Pilot Officers: D. W. Baird, to No. 204 (F.B.) Sqdn., Mount Batten, 4.6.33. J. Goodhart, to No. 209 (F.B.) Sqdn., Mount Batten, 4.6.33. J. C. Sisson, to

HALF-YEARLY PROMOTIONS

and with seniority of 1st January, 1933 (immediately following Wing Commander John Whitaker Woodhouse, D.S.O., M.C., on the gradation list).

Flight Lieutenants to be Squadron Leaders: Hugh Val Pendavis, D.S.O.; Robert Rule Graham (Lieutenant-Commander, R.N.); Frederick William Howard Clarke (Lieutenant-Commander, R.N.); Henry Lockhart St. John Fancourt (Lieutenant-Commander, R.N.); Cyril Bristowe Tidd (Lieutenant-Commander, R.N.).

Flying Officers to be Flight Lieutenants: James Edmund Fenton (Lieutenant, R.N.); Anthony Cuthbert Guy Ermen (Lieutenant, R.N.); John Edgar Burstall (Lieutenant, R.N.); John Curthoys Richards (Lieutenant, R.N.); John Brett (Lieutenant, R.N.); Henry Helder Caddy (Lieutenant, R.N.).

Stores Branch

Wing Commander to be Group Captain: Ephraim William Havers. *Squadron Leader to be Wing Commander*: Thomas George Skeats.

Accountant Branch

Flying Officer to be Flight Lieutenant: Kenneth England Maxwell Holmes.

Medical Branch

Squadron Leaders to be Wing Commanders: Arthur James Brown, D.S.O., M.R.C.S., L.R.C.P.; Richard John Aberne, M.C., L.R.C.P. and S.

PRINCESS MARY'S ROYAL AIR FORCE NURSING SERVICE

Senior Sister (Acting Matron) to be Matron: Miss Margaret Watt Walker. *Sister (Acting Senior Sister) to be Senior Sister*: Miss Nellie Gertrude Rees.

R.A.F. Pilots' Private Aircraft

THE Air Ministry have decided that officers of the general duties branch and airmen pilots who own private aircraft may in future be granted permission by their C.Os. to fly their private aircraft on approved journeys on duty instead of using other means of transport.

The Air Force List

THE July issue of the Air Force List has now been published. It can be purchased (price 2s. 6d.) from H.M. Stationery Office at the following addresses:—Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh; 2, York Street, Manchester; 1,

Dental Branch

R. H. Matthews, L.D.S., is granted a non-permanent commn. as Flying Officer with effect from and with seny. of May 29.

ROYAL AIR FORCE RESERVE RESERVE OF AIR FORCE OFFICERS

General Duties Branch

I. C. MacLaine is granted a commn. as Pilot Officer on probation in Class A (June 16). The follg. are granted commns. as Pilot Officers on probation in Class AA (i): H. N. E. Salmon (June 8); G. T. Greenhalgh (June 17); D. A. Letts, D. A. Rea (June 19).

F/O. C. A. Pike is promoted to rank of Flight Lt. (June 1); F/O. C. G. Kitchingman is transferred from Class A to Class C (June 19); P/O. P. T. Petley is transferred from Class C to Class AA (ii) (June 14); F/O. C. E. V. L'E. Feasey relinquishes his commn. on account of ill-health (June 28).

Medical Branch

Flt. Lt. (Hon. Sqdn. Ldr.) T. M. Walker, M.R.C.S., L.R.C.P., is employed with the Regular Air Force for a further year (June 2).

SPECIAL RESERVE

General Duties Branch

Flying Officer B. A. Hewett is promoted to rank of Flight Lt. (May 1).

No. 210 (F.B.) Sqdn., Pembroke Dock, 4.6.33. R. G. Bowditch, to No. 16 (A.C.) Sqdn., Old Sarum, 26.6.33.

Acting Pilot Officer—R. M. Hall, to R.A.F. Balloon Centre, Rollestone, 15.6.33.

Stores Branch

Flight Lieutenant—S. D. Dennis, to Station H.Q., Mount Batten, 19.6.33.

Accountant Branch

Squadron Leader E. C. M. Knott to Station H.Q., Hendon, 25.6.33, for Accountant duties.

Medical Branch

Flying Officer J. F. Sandow, to H.Q., Inland Area, Stanmore, 10.6.33.

Dental Branch

Flight Lieutenant W. D. Guyler, to No. 5 Flying Training School, Sealand, 26.6.33.

NAVAL APPOINTMENTS

The following appointments have been made by the Admiralty:—*Lieut.*—G. H. Beale, lent to R.A.F. for School of Naval Co-operation, Lee-on-Solent (July 15).

Royal Air Force

Squadron Leaders—W. E. Swann, to *Glorious*, No. 802 Sqdn., in command (June 9); G. H. Boyce, [A.F.C.], to *Glorious*, No. 812 Sqdn., in command (June 12).

Flying Officer E. C. Ingham, to *Glorious*, No. 802 Sqdn. (June 21).

St. Andrew's Crescent, Cardiff; 15, Donegall Square, Belfast; or through any bookseller.

No. 3 Sq. R.F.C. and R.A.F. Reunion Dinner

It is proposed that a Reunion dinner for all past and present members of No. 3 Squadron R.F.C. and R.A.F. should be held during the present year to commemorate the 21st anniversary of the formation of the squadron. Will any member who is interested, or who is willing to co-operate in the organisation of such a function, please communicate with Flt. Sgt. Bishop, 139, Devonshire Road, Forest Hill, S.E.23, or Officer Commanding, No. 3 (Fighter) Squadron, R.A.F., Upavon, Wilts.

AIR POST STAMPS

By DOUGLAS ARMSTRONG

(Editor of "Stamp Collecting")

Newfoundland's Aero-Publicity Stamps

The new set of air mail stamps which has just been put on sale by the Newfoundland Post Office may be open to criticism upon purely artistic grounds (a correspondent has likened them to Japanese matchbox labels!), but there is no denying that their very apt illustrations of the various enterprises undertaken by the air service of the Dominion are a practical form of propaganda for that institution. First we are introduced to a postal plane passing over a Newfoundland moor and rising a flock of partridge in its flight (value 5 cents, colour autumn brown). Next, a group of anglers in the Land of Heart's Delight, with the seaplane which carried them there moored on the lake (10 cents, light orange). Aeroplanes fitted with landing skis are employed in connection with the sealing industry in the icefields to the north of Newfoundland. One is shown engaged in "Spotting the Herd" upon the 30 cents value of this series, printed in blue. A seaplane bringing "News from Home" to the fishing fleet on the Grand Banks forms the subject of the 60 cents air mail stamp, sea green in colour; whilst a flight of aeroplanes bringing supplies and mails to a lonely camp in the goldfields of Labrador is depicted in the vignette of the 75 cents, appropriately coloured old gold.

These air stamps are to be used in connection with a new air mail service to be inaugurated on July 11 between St. John's (Newfoundland) and the goldfields of South-West Labrador by way of the Seven Islands (Quebec Province, Canada). The air post fee will be 60 cents per ounce, plus 10 cents for registration and the Labrador terminal Wabush-Katsao.

Last from Brazil?

The latest aero stamp out of Brazil, an oblong label of the face value \$3 500 reis, representing an aeroplane flying out of the folds of the national flag over the Sugar Loaf Mountain at the entrance to Rio Harbour, may prove to be the last stamp to be issued by this country bearing the inscription "Correo Aereo." According to reports, Brazil is about to follow in the footsteps of Argentina by abolishing separate stamps for aerial postage and accepting the ordinary variety in payment of air mail fees, which are to be stabilised at 1,000 reis per 5 grammes for the inland service and \$4 500 reis for letters sent by air out of the country.

Hungarian Allegories

Allegorical motifs by Ferdinand Marton adorn the higher values of a handsome series of Hungarian air post stamps that has just been placed in circulation. One shows a classical figure of Flight standing upon the wing of a flying aeroplane and the other a man on a mountain top acclaiming the passing of an aeroplane which is emerging from the sunrise above the sacred cross of St. Stephen. The lower denominations depict a giant passenger aeroplane over the valley of the Danube, and are the work of Franz Helbing. The set of eight stamps comprises: 10 filler, emerald; 16 f., violet; 20 f., carmine; 40 f., bright blue; 48 f., grey-black; 72 f., brown; 1 pengo, yellow-green, and 2 pengos, claret.

Indo-China Air Link

The linking up of Saigon, capital of French Indo-China, by air mail with other important centres of the Far East, on June 1, was attended by the issue of distinctive air post stamps in 14 denominations, ranging from 1 centime to 10 piastres, and all showing a striking impression of an aeroplane in flight reproduced by the helio-gravure process in Paris, after the design of G. Barlangue.

For Disabled Airmen

In Latvia, on June 15, appeared the third special issue of charity aero stamps to be sold at a premium upon face value on behalf of disabled air pilots of the national service. The three vignettes carried out in the form of inverted triangles represent respectively an aeroplane on the ground, with the Swastika device (3 x 53 sant., vermilion and black), an aeroplane dropping bombs upon a railway bridge over a river (7 x 50 sant., sepia and slate) and Latvian aeroplanes engaged in the Circuit of Europe Flight in 1930 (35 x 100 sant., blue and black). As in the case of former issues of this character only a small proportion of the total printing was sold by post offices, and

the balance placed at the disposal of the charity for disposal at their discretion.

The Italian Formation Flight

A special mail is being made up at Reykjavik, Iceland, for transmission to America by the seaplanes of the Italian transatlantic formation flight, when they touch there en route for the Century of Progress Exposition at Chicago. For this purpose a small supply of the contemporary 1, 5 and 10 kroner postage stamps has been expressly overprinted with the words "Hopflug Itala 1933" in readiness for the arrival of Gen. Balboa's squadron which is daily anticipated. Arrangements are also being made for the despatch of a limited mail on the last stage of the Italian seaplane flight from Montreal to Chicago, when a special cachet will doubtless be applied by the Canadian postal authorities. It is unlikely, however, that distinctive stamps will be provided.

Air Mails at Vienna

Thirty-five of the foremost air mail collections in the world have been entered for competition at the three million pounds international philatelic exhibition now taking place in Vienna. The British entrants include three lady collectors, viz., Miss W. Penn Gaskell, Mrs. Anson McCleverty and Miss Gertrude Collins.

PUBLICATIONS RECEIVED

Aeronautical Research Committee Reports and Memoranda: No. 1506. *Theory of Loss of Lateral Control due to Wing Twisting*. By H. Roxbee Cox and A. G. Pugsley. October, 1932. Price 9d. net. No. 1510. *Turbulence in the Wake of a Body*. By A. Fage. Sept., 1932. Price 6d. net. No. 1511. *Effect of Turbulence on Drag of Airship Models*. By Hilda M. Lyon. August, 1932. Price 1s. 9d. net. No. 1515. *Spinning of a Bristol Fighter*. By A. V. Stephens. July, 1932. Price 1s. 3d. net. No. 1516. *Some Possible Advantages of a Variable Pitch Airscrew*. By W. G. Jennings. October, 1932. Price 1s. 3d. net. No. 1518. *Present Position of Investigation of Airscrew Flutter*. By W. J. Duncan and A. R. Collar. December, 1932. Price 2s. net. No. 1523. *Abstract Intercrystalline Corrosion of Duralumin*. By A. J. Sidery, K. G. Lewis and H. Sutton. March, 1933. Price 3d. net. No. 1525. *Abstract: Detonation, Spark-Plug Position and Engine Speed*. By R. O. King and H. Moss. March, 1933. Price 2d. net. London: H.M. Stationery Office, W.C.2.

The "Bristol" Review. Engine Issue No. 6. June, 1933. The Bristol Aeroplane Co., Ltd., Filton, Bristol.
Book of the Morris Minor. By H. Jelley and E. G. Eastwood. London: Sir Isaac Pitman and Sons, Ltd. Price 2s. 6d. net.
Raftales: Told to a Flight Cadet. By C. B. Baker. London: Sir Isaac Pitman and Sons, Ltd. Price 2s. net.

NEW COMPANIES REGISTERED

WILLIAM RICHTER, LTD., Goodrich House, Fore Street, Hatfield. Capital, £2,000 in £1 shares. Manufacturers and distributors of, agents for and dealers in Junkers Diesel engines, both British and German, and all parts thereof, agricultural machinery and parts thereof; manufacturers of and dealers in aeroplanes, locomotives, oil, petrol and other engines, motor cars, etc. Directors: William R. Richter, engineering contractor (director of Nene Valley Sand and Gravel Co., Ltd.); Mrs. Ida R. Richter, both of "Dornhurst," Roe Green Lane, Hatfield.

LEWIS'S ESTATES DEVELOPMENT, LTD., 23, Bloomsbury Square, W.C.1. Capital, £300 in £1 shares. Objects, to carry on the business of a land and building company. Power is taken (*inter alia*) to erect aircraft stations. Directors: Morris Lewis, builder; Mrs. Florence Lewis, both of 22, Crothorne Court, Maida Vale, W.9.

PAK PARACHUTE COMPANY, LTD., Jamaica Buildings, St. Michael's Alley, E.C.3. Capital: £2,000 in £1 shares. Manufacturers of and dealers in parachutes and aerial conveyances of all kinds, etc. Directors: Jan Popelak and Frank A. Caspar, both of Rieden, Waterer Rise, Wallington, Surrey.

FORWARD VIEW AEROPLANES, LTD. Capital: £2,000 in £1 shares. Acquiring from Wm. S. Shackleton & Lee, C. Lathrop Murray an experimental aeroplane known as The Shackleton Murray Pusher Monoplane S.M.I., with registered designs, letters patent, and drawings, and to carry on the business of aeronautical experts and consultants, etc. Directors: Thomas H. Clouston; Lee Cameron L. Murray, Wm. S. Shackleton, both of 175, Piccadilly, W.1. Solicitors: Radcliffe & Hood, St. Barbe, Sladen & Wing, 10, Little College Street, S.W.1.

INCREASE OF CAPITAL

AIRWORK ENGINE SERVICE, LTD., Heston Airport, Hounslow, Middlesex. The nominal capital has been increased by the addition of £2,500 beyond the registered capital of £2,000. The additional capital is divided into 2,500 9 per cent. preference shares of £1 each.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. (The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

APPLIED FOR IN 1931

Published July 6, 1933
30,690. E. MACALUSO. Propellers. (393,622.)

APPLIED FOR IN 1932

Published July 6, 1933
1,380. E. E. OEHMICHEN. Stabilising and safety device for aircraft. (393,687.)
4,006. SPERRY GYROSCOPE Co., INC. Gyroscopic apparatus. (393,695.)
22,199. SIEMENS & HALSKE AKT.-GES. Device for reducing expenditure of power for cooling air-cooled radial-cyl. i.c. engines. (393,794-)

Personals

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(18 words or less 3/6, then 2d. per word).

To be Married.

KNIGHTS-WHITTOME : WOODFULL-MILLARD.—A marriage has been arranged, and will take place shortly, between Mr. RONALD JOHN KNIGHTS-WHITTOME, R.A.F., younger son of Mr. and Mrs. D. Knights-Whittome, of Cranwell Lodge, St. Albans, and JACINTH, only daughter of Capt. and Mrs. S. Woodfull-Millard, of 51, Cleveland-square, Hyde Park, London, W.

Married.

COMBE: BEASLEY.—On June 28, 1933, at Watlington, Kent, by the Rev. K. C. H. Warner, C.F., assisted by the Rev. G. Griffiths, FLIGHT-LIEUTENANT ARTHUR RONALD COMBE, R.A.F., to DORIS HELEN, only child of Mr. and Mrs. C. R. Beasley, of Cairo, Egypt, and Hemingford-Grey, Huntingdon.

Births

CALLAWAY.—On July 1, 1933, at 27, Welbeck Street, to EVELYN, wife of GROUP CAPTAIN W. B. CALLAWAY, R.A.F.—a daughter.

CORYTON.—On June 26, 1933, at Selwood, Rotherhampton, to PHILIPPA, wife of SQUADRON LEADER W. A. CORYTON, M.V.O., D.F.C.—a daughter.

RICHARDSON.—On June 25, 1933, at The Holt, Gerrards Cross, Bucks, to EILEEN (née Hornibrook), wife of GROUP CAPTAIN A. V. J. RICHARDSON, R.A.F.—a daughter.

Death.

FURZE.—On June 30, 1933, as the result of a flying accident at Ambala, N. India, PILOT OFFICER DENIS HENRY FURZE, R.A.F., only son of Alfred John and Ida Furze, of 24, Manor View, Finchley, London, in his 21st year.

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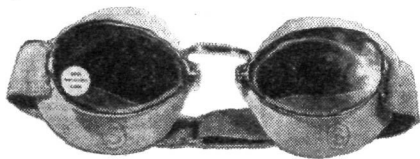
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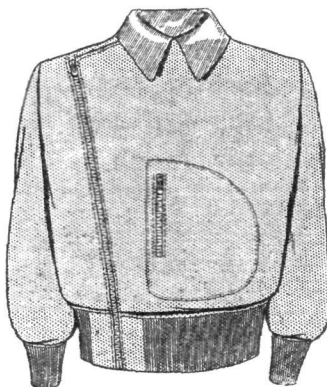
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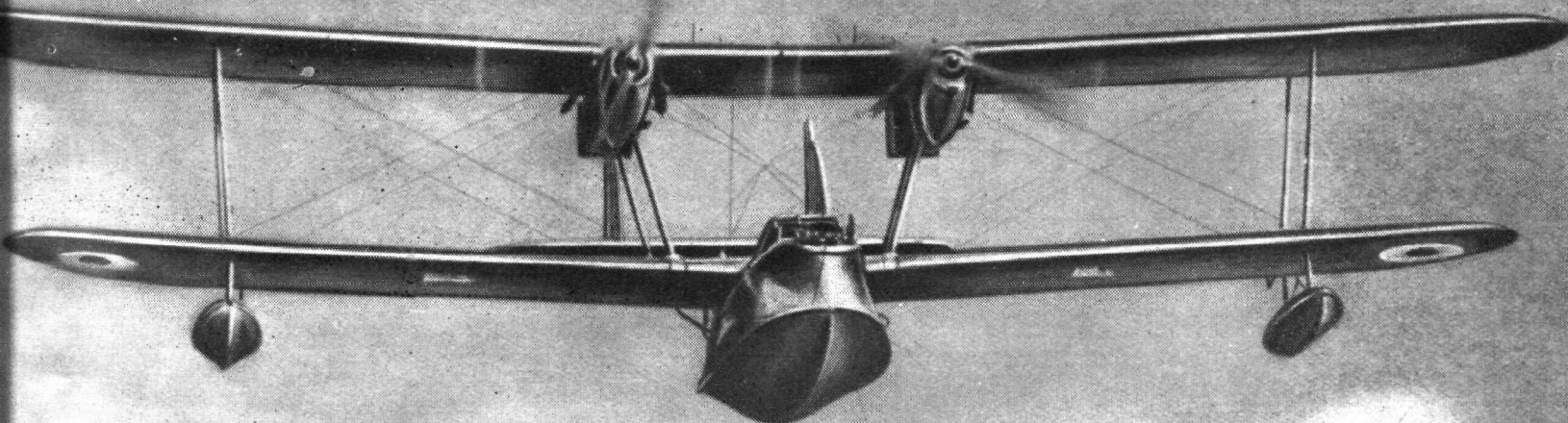
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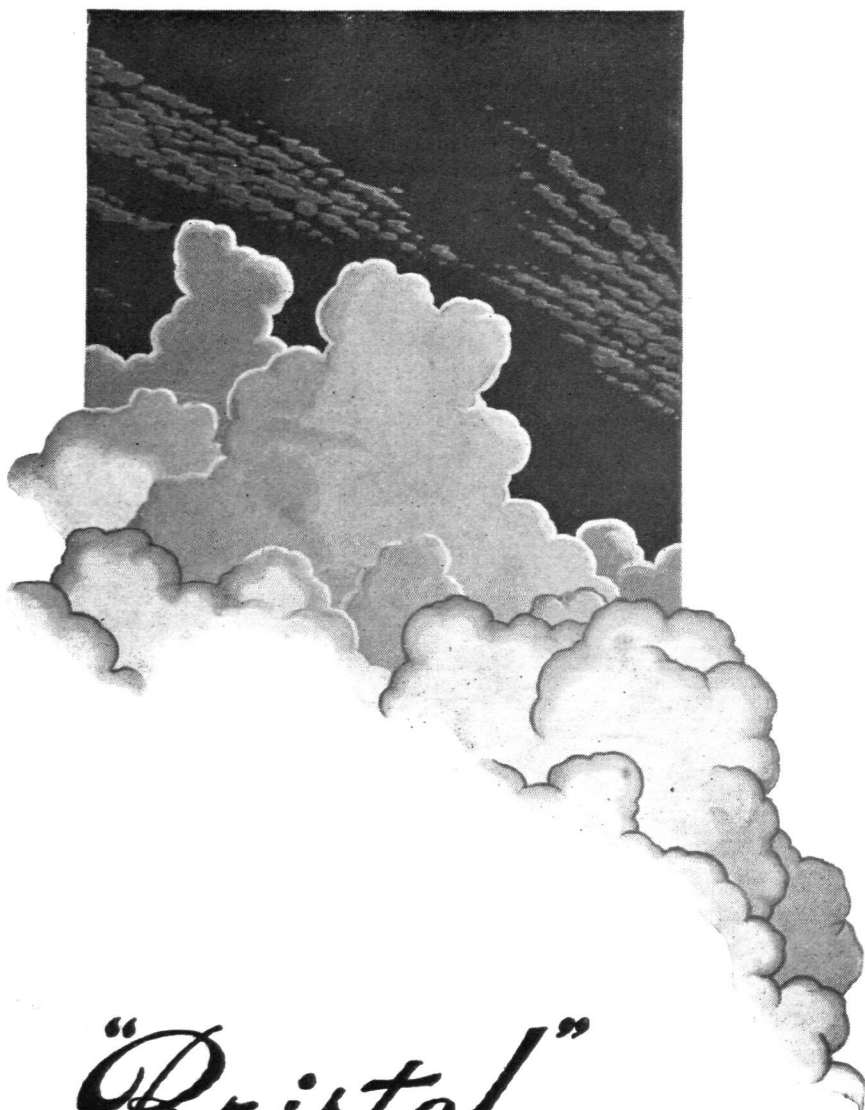
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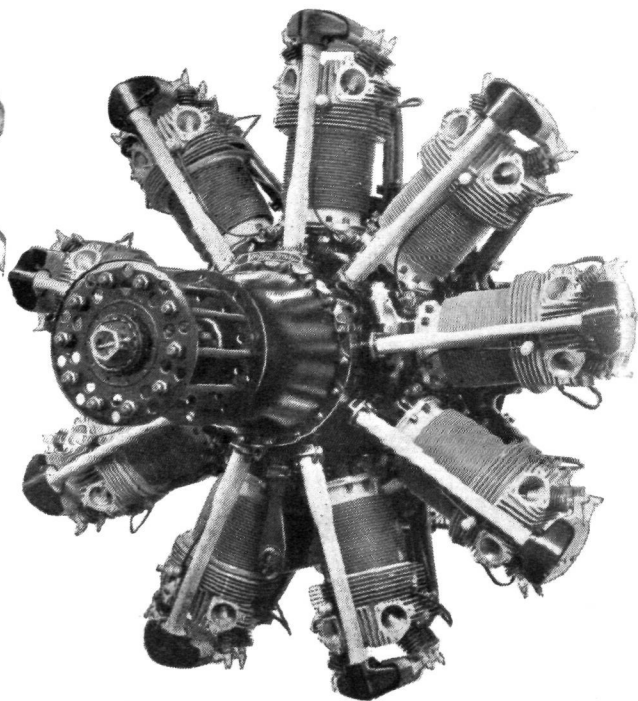
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